Welcome to 2015! I hope everyone enjoyed the holiday season. Since this is my first newsletter, I would like to thank my predecessor, Dr. Francis Walker, for his leadership during his year as AANEM President. His vision helped guide AANEM through another successful year, culminating in a spectacular annual meeting in Savannah, GA, this past October.

How AANEM is Working to Meet Member Needs

BY VINCENT TRANCHITELLA, MD, AANEM PRESIDENT

As we embark on a new year, an update on the work that AANEM is performing on behalf of its membership seems appropriate. During our annual meeting in Savannah, the AANEM Board of Directors, committee chairs, finance committee members, and resident liaisons participated in a strategic planning session. We had the pleasure of working with Stacey Gandler, president of Gandler Public Relations, who helped direct our discussion. The purpose of the strategic planning session was to define urgent and important goals in order to guide AANEM activities in the coming year. As a result, we will be working on: creating items to better meet your maintenance of certification needs, quality measures, and evidenced based guidelines.

Additionally, in today’s rapidly changing healthcare environment, it is vital that an organization have the ability to be flexible, to be able to react quickly, and to address short-term goals while maintaining a long-term vision. Fortunately, the AANEM is perfectly suited to accomplish these tasks. In order to become even more nimble, we have instituted monthly Board of Director telephone conferences to discuss current issues affecting our specialty.

New Activities in 2015

It is becoming increasingly apparent that physicians are being graded for their cost-effectiveness and rewarded for adherence to quality measures. AANEM must begin to develop quality measures by which neuromuscular (NM) and electrodiagnostic (EDX) physicians will be graded. Failure to do so will likely result in such measures being developed for us by individuals not trained in NM or EDX medicine. Measures that are not created by us are not likely to be consistent with our needs. One of my main focuses this year is to begin creating quality measures for EDX and NM medicine and to determine how to incorporate these measures into our daily practices.

Share Your Experience

Finally, I would like to take a moment to thank the AANEM staff for their outstanding work, and tireless efforts, on behalf of our members. They are always ready and willing to support us. As I’m sure most of you will agree, the AANEM is truly a unique medical organization. However, it would be wonderful if more physicians could enjoy the benefits of AANEM membership. Whenever possible, I encourage each of you to share your enthusiasm for this organization with your friends and colleagues. Better yet, if you have ever thought about “giving back,” or “paying it forward,” AANEM would be delighted to have you volunteer your skills, experience, and time to this wonderful organization.

In closing, I’d like to thank each of you for continued support of AANEM. I wish you health, happiness, and success in the coming year and beyond.

Continued on Page 12

Foundation Announces Neurotoxin Clinical Research Fellowship Opportunity

Recognizing the critical need for neuromuscular research, the AANEM Foundation recently announced its new AANEM Foundation Clinical Research Fellowship, offering a one-year award to institutions to provide clinical research training for board-certified or board-eligible neurologists, physiatrists, or clinical neurophysiologists. The initial fellowship award will support clinical research training to provide insights and answers about the safety and effectiveness of the neurological application of neurotoxins.

“There is a need to recruit and train clinical researchers in neuromuscular medicine however there is a shortage of clinical investigators because funding is limited. Funding for research from the National Institutes of Health (NIH) has remained level making it difficult for training institutions to obtain new NIH funding to support clinical research fellowships,” noted Shirlyn Adkins, Executive Director of the AANEM Foundation, “Through partnerships with other organizations and companies that share our goal of increasing neuromuscular research, we hope to ultimately improve the quality of healthcare and treatment for patients with nerve and muscle disorders. The AANEM Foundation hopes to identify additional partnerships to offer more fellowship opportunities in the near future,” stated Brenda Riggott, director of foundation and corporate relations.

The institution will receive $60,000 in salary support for one year plus $10,000 for tuition to support the applicant’s formal education in clinical research methodology. The AANEM will provide complementary meeting registration plus $1,000 for the fellow to attend the AANEM Annual Meeting to present the research.

Institutions interested in applying for fellowship funding will identify potential research fellows who will begin their traditional one-year neuromuscular medicine, clinical neurophysiology, or electrodiagnostic medicine fellowship in July of 2015. The AANEM Foundation Clinical Research Fellowship will begin in July 2016. The training institution should nominate candidates who are interested in a second year research fellowship and pursuing academic research careers. Institutions with established neurology, neuromuscular medicine, clinical neurophysiology, or physical medicine and rehabilitation fellowship training
February Issue of Muscle & Nerve
Between the Covers

LAWRENCE H PHILLIPS, II, MD, MUSCLE & NERVE EDITOR, PROVIDES AN OVERVIEW OF ARTICLES IN THE FEBRUARY ISSUE.

Advances for Spinal Muscular Atrophy Patients
Spinal muscular atrophy (SMA) is a lower motor neuron disorder that is the most common genetic form of death in infants. It is an autosomal recessive disorder with a carrier frequency in the general population of approximately 1 in 50, which ranks it second only to cystic fibrosis among heritable diseases in children. Recently there have been exciting advances in SMA research. There are several clinical trials currently underway that test two genetic strategies for restoration of normal levels of survival motor neuron protein (SMN). In the lead article in this issue, Arnold, et.al., present an updated review of the clinical diagnosis and management of 5q or SMN-related SMA which includes a timely discussion of progress in the field.

Microsoft Kinect Useful Tool for Clinical Trials?
The lack of valid and reliable outcome measures in neuromuscular diseases is a major hurdle for conducting treatment trials. In this issue, Han, et.al., demonstrate the feasibility of using a single depth-ranging sensory-based motion analysis system that utilizes the Microsoft Kinect platform to assess upper extremity function in individuals with facioscapulohumeral muscular dystrophy (FSHD). The system performs a scalable and markerless depth-ranging sensory-based motion analysis system that can assess reachable workspace. It can identify significant reductions in the reachable workspace according to disease severity, and the loss of reachable workspace correlates highly with upper extremity function. This system may be a useful tool for clinical trials.

Certain Portion of Channel Protein Matters for LEMS Patients
Lambert-Eaton myasthenic syndrome (LEMS) is a paraneoplastic disorder that results in muscle weakness due to a defect of acetylcholine release. The cause has been identified as autoantibodies directed against voltage-gated Ca2+ channels in acetylcholine release sites on motor nerve terminals. Hajela, et.al., used HEK293 cells that express individual recombinant subunits of human neuronal voltage-gated Ca2+ channels to determine that antibodies isolated from LEMS patients and a patient with small-cell lung cancer bind to cells containing any of the subunits alone or in combination. The specific portion of the channel protein that is responsible for mediating Ca2+ entry appears to be the primary target, as opposed to other parts of the channel protein.

Asking Patients About Pain Matters
Electrodiagnostic physicians are accustomed to dealing with the pain experienced by patients as they undergo needle examination. In a study of pain perception in EMG studies, Versin, et.al., found that examiners often underestimated the pain their patients were experiencing. They also found that individuals who experienced greater pain from their underlying disease felt more pain during the EMG examination. The message conveyed by this study is that clinicians are encouraged to ask patients about their pain during the study rather than assuming they can tell just by observation.

Report Builds Awareness of Andersen-Tawil Syndrome
Andersen-Tawil syndrome is a rare potassium channelopathy that affects cardiac and skeletal muscle. Kostera-Pruszczyk, et.al., describe eight families, including three that have novel KCNJ2 mutations. They report high penetrance of periodic paralysis in men, and it is most often just by observation.

Continued on next page
As an aid to identification of patients susceptible to CIPN before testing to identify neuropathy susceptibility in patients with chemotherapy. One classic presentation is severe neuropathy in CMT patients and in a low-risk group. Variations in the CMT genes analyzed by targeted massively parallel DNA sequencing in these patients and in a low-risk group. Variations in the CMT genes identified in 73 patients using the CIPN 20-question questionnaire. Forty-nine CMT genes were analyzed by targeted massively parallel DNA sequencing in these patients who receive vincristine. This study explored the hypothesis that CMT gene variations might be associated with development of CIPN in patients without CMT, and identified two potential genes. This modification to MUNIX technique proves useful. Motor unit number index (MUNIX) measurement is a modification of the motor unit number estimation (MUNE) technique. This technique has the advantage of being easy to perform, and a study can be done relatively rapidly in many muscles. Ahn, et al., extended MUNIX to study of the orbicularis oculi muscle and showed good reproducibility and ease of performance. This technique is useful for study of motor unit numbers in bulbar muscles, particularly in motor neuron disease. Quantifying Muscle Pathology in Duchenne Muscular Dystrophy With Ultrasound. Muscle pathology in Duchenne muscular dystrophy (DMD) can be quantified with the use of ultrasound by measuring either the amplitudes of sound-waves scattered back from the tissue [quantitative backscatter analysis (QBA)] or by measuring the backscattered amplitudes after compression into grayscale levels obtained from the images (GSL). Shklyar, et al., compared QBA to GSL measured from superficial and whole regions of muscle in 25 healthy boys and 25 with DMD. In DMD, average QBA and GSL measured from superficial but not whole regions of muscle increased with greater age and worse function. Both QBA and GSL were measured reliably, were higher in DMD than controls, and quantified muscle pathology similarly in measurements of superficial regions of muscle. 

More Topics in the Journal:
Severe median nerve lesions at the wrist in carpal tunnel syndrome • Chronic obstructive pulmonary disease • Emery-Dreifuss muscular dystrophy • Role of calcitonin in promoting nerve regeneration • Peripheral nerves’ spiral banding patterns and Charcot-Marie-Tooth (CMT) disease • Combining MRI and muscle biopsy in patients with suspected inflammatory myopathy • Prostheses construction and robotics • Focused cold therapy and peripheral nerves • Critical step in accurate normalization of real-time reverse transcription (RT)-PCR

Muscle & Nerve
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Go to www.aanem.org and access the journal using your AANEM member login. Click “Journal” in the upper right corner to get started.
One stop. One username and password. All the benefits of membership at your fingertips.

From the AANEM News Science Editorial Board
Innovative Science You Might Have Missed

Association Between CMT Gene Variations and Susceptibility to Polyneuropathy

Chemotherapy-induced peripheral neuropathy (CIPN) was used as a model to investigate the association between Charcot-Marie-Tooth (CMT) gene variations and susceptibility to polyneuropathy. In this study, paclitaxel was administered to 269 cancer patients (a majority of whom had breast cancer) without neuropathy. Susceptibility to neuropathy was identified in 73 patients using the CIPN 20-question questionnaire. Forty-nine CMT genes were analyzed by targeted massively parallel DNA sequencing in these patients and in a low-risk group. Variations in the CMT genes PRX (periaxin, thought to play a role in peripheral nervous system myelin stabilization) and ARHGEF10 (the guanine exchange factor, a regulator of actin, cytoskeletal, and microtubular function) were identified in patients without CMT, and identified two potential genes. This technique could have several exciting clinical and scientific applications.

• As an aid to identification of patients susceptible to CIPN before initiating chemotherapy.
• Creation of animal models to identify immunomodulatory therapies. Although the mechanism of action of IVIg is unclear, its effectiveness in treatment of autoimmune disease may be due to the interaction of Fc fragments with Fc gamma receptors: blockade of these receptors is known to reduce auto-antibody activity in animal models. A recombinant human Fc molecule, therefore, may be effective for myasthenics without requiring large infusion volumes or increasing the risk for infection.

2014 Course Book Bundle Now Available as an Online Download
The 2014 AANEM Annual Meeting course book bundle is on sale—$150 for AANEM members/$225 for nonmembers for books on 11 topics. That’s 63.25 AMA PRA Category 1 Credits™! The bundle contains electronic copies of course books from the AANEM 61st Annual Meeting in Savannah, GA. Visit the Marketplace at www.aanem.org/marketplace and search for “2014 Course Book Bundle.”

M045 or IVIg More Effective in Treatment of Myasthenia Gravis

Thiruppathi and colleagues investigated the effectiveness of M045, a recombinant polyvalent IgG2a (the mouse analog of human IgG1) Fc in treatment of experimental autoimmune myasthenia gravis (EAMG) and compared it with IVlg. Mice were immunized with Torpedo acetylcholine receptor (tAChR) and treated with one of five infusions: normal saline, IVlg at a dose of 1 g/kg, or one of three doses of M045 ranging between 20 mg/kg and 60 mg/kg. Mice treated with both IVlg and the 40 and 60 mg/kg doses of M045 were shown to have less frequent and severe disease compared to control animals. Markers of reduced B cell and T cell activation, reduced dendritic cell maturation, and expansion of regulatory T cells were all noted in the mice that received either M045 or IVlg.

Comment: IVlg is used to treat patients with myasthenia gravis, especially those in crisis or those who are refractory to other immunomodulatory therapies. Although the mechanism of action of IVlg is unclear, its effectiveness in treatment of autoimmune disease may be due to the interaction of Fc fragments with Fc gamma receptors: blockade of these receptors is known to reduce auto-antibody activity in animal models. A recombinant human Fc molecule, therefore, may be effective for myasthenics without requiring large infusion volumes or increasing the risk for infection.
ABEM Announces New Format for Certification and MOCP Exams

MOCP Exam

ABEM is pleased to announce that starting in 2015, the Maintenance of Certification Program (MOCP) Examination will be offered in an online format. The exam will no longer be held at the AANEM Annual Meeting.

“We know that physicians want to see changes to MOCP. Allowing candidates to take their recertification exam from the comfort of their own office is something the ABEM Board believed would help ease the burden on physicians,” said Derek McMurchie, professional standards manager. “To continue to meet ABMS requirements, each candidate will be required to have someone proctor the examination and attest that the identified test-taker is, in fact, the person who is taking the test. The ABEM Board is committed to continuing to make changes to the process as the ABMS changes the requirements for maintenance of certification.”

“We appreciate all of the time and effort each diplomate puts into the MOC process, including preparation for the exam. The exam has been improved every year through the efforts of past and present committee members, member feedback, and statistical analysis,” said Michael DeMarco, DO, MOCP Chair. “With the 2015 exam and new format, we look to continue moving forward toward the goal of a clinically relevant exam that tests knowledge gained through both continuing education and the clinical practice of electrodiagnostic medicine.”

The exam will be held on Wednesday, December 2. The cost of the exam is $575 if registered for between June 1 and June 30, 2015, and $675 if registered for between July 1 and July 31. More information about the examination process will be communicated in spring 2015.

Certification Exam

After careful deliberation and research, the American Board of Electrodiagnostic Medicine (ABEM) Board of Directors voted to change the format of the ABEM Certification Examination at its 2014 spring meeting in Chicago, IL. The board voted to eliminate the oral examination component and move the examination delivery to Pearson Testing Centers nationwide. “The Board also has discussed moving the examination to testing centers for many years, and now we’re pleased to provide this convenience for our candidates,” said Kathryn Stolp, MD, ABEM Chair.

The first administration of the exam will be held November 18-21, 2015. It will be a one part, four-hour exam with approximately 200 multiple-choice questions, including both waveform and static image items. “We listened to past test takers and tried to create an examination delivery format that will save the candidates both in travel costs and days off work,” said Derek McMurchie, professional standards manager. “Until now, candidates travelled to Chicago to take the examination, incurring travel, hotel, and meal costs while also missing days at work. Moving it to nationwide testing centers will reduce these candidate costs.”

Candidates will contact their local Pearson Testing Center (go to www.pearsonvue.com and click on “locate a testing center”) to schedule their exam on the day that works best for them. Early bird registration will open June 1 and end June 30, 2015. Regular registration begins July 1, 2015, with the application deadline on July 31, 2015. More information about registration will be communicated to interested candidates in spring 2015. Our Information for Candidates booklet is located at www.abemexam.org and includes eligibility requirements, examination overview, examples of clinically relevant questions, study resources, and more.

Cost: Application Fee: $100 (Early Bird); $200 (Regular) Examination Fee: $850
Clinical Pearl: Dealing with Cool Limb Temperature

**NCs waveforms, particularly sensory nerve action potentials, that demonstrate high amplitudes with long durations may be an indicator of a possible temperature affect (cool limb temperature). Cool limb temperature increases the amplitude and prolongs the duration of the responses, as a result of prolonging sodium channel opening time. Therefore, the effect of cool temperature will be slowed conduction velocity, prolonged distal latency, high amplitudes, and long durations.**

The effect of cool limb temperature is a common technical problem and is often encountered in the EMG laboratory. It can mimic diseases such as carpal tunnel syndrome, ulnar neuropathy, or a diffuse polyneuropathy. Limb temperatures should be measured during every NCS and if the limb is cool, warming of the limb (to >30°C Celsius in the leg or >32°C Celsius in the arm) should be performed.

**Source:** Real EMG Case B10 – A 46-year old woman with cold, numb arms; Devon Rubin, MD; Andrea Leep Hunderfunk, MD

Real EMG® consists of unidentified cases of real patients who present for an EMG study. Each case will provide a clinical history and examination which will allow the user to identify the potential diagnoses prior to obtaining the EMG findings and all cases are available for instant download in the AANEM Marketplace.

Regional Seminars

In efforts to provide accessible education to our members, the AANEM annually hosts regional seminars and NCS Sessions for physicians and technologists. Each regional meeting offers 1.5 days of education taught by some of the best and brightest physicians and technologists in the field. Meeting topics vary and attendees learn in lecture settings as well as participate in hands-on workshops. If you are interested in hosting a regional seminar please contact education@aanem.org. To view our list of upcoming regional meetings, visit www.aanem.org/regionalseminar.

Neuromuscular Ultrasound Workshop

**Presented by** Wake Forest School of Medicine and AANEM

**Francis Walker, MD, Director**

**Michael Cartwright, MD, Coordinator**

The Neuromuscular Ultrasound workshop focuses on applications in muscle disease, peripheral and cranial nerve imaging, and introduction to the use of ultrasound in evaluating musculoskeletal disorders. Lectures are integrated with hands-on demonstrations of technique and case interpretation. A small group format facilitates questions and answers and tailors the educational experience to meet the specific needs of individual participants. It is in real-time use of the instrument that the practitioner recognizes the importance of this type of basic knowledge and it is in this context that they can apply this knowledge to troubleshoot difficult imaging cases, identify artifacts, and improve resolution at the bedside.

**April 9-10, 2015, Cost: $950**

For more information visit www.WakeHealth.edu/ultrasound or contact cmu@wakehealth.edu or meeting@aanem.org

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**AANEM News**

Introducing Meetings Department Staff

For the first time since 1987, the AANEM Meetings Department will have a new director. Denae Brennan (above, left) has been transitioning to this role since mid-September when Kathy Smith announced her retirement.

“Denae brings solid event planning experience to her new role,” stated Shirlyn Adkins, AANEM executive director. “She initially demonstrated her organizational skills to us and our members in 2013 when she handled our annual meeting workshops as our education & meeting manager. We know she will continue to provide exceptional oversight to our largest educational event as our meetings director.”

Denae previously worked as a public affairs associate at Mayo Clinic, completing social and online media responsibilities and special projects, such as organizing department-wide meetings. She also served as the events and outreach manager for the Arizona Opera, where she executed all special events that supported the non-profit arts organization.

In addition, Denae worked as the media relations specialist for the Fiesta Bowl, where she edited more than nine publications and handled logistics for all game week media needs in both the hotel and press box. She also handled hotel contracts, rooming lists, registration, and more as part of this Bowl game’s staff.

Denae’s promotion led to the hiring of Amy White (above, right) as AANEM’s education & meeting coordinator. Amy comes to the AANEM with previous association and marketing/events experience. She worked as the marketing coordinator for Peatt, Kurzke & Associates, LLC, a financial planning firm in Rochester, and as a marketing specialist for Graphics Systems Corp. in Milwaukee, where she coordinated customer events, seminars, conferences, webinars, and trade shows.

Amy’s association experience also occurred in Milwaukee, where she worked for two years at Association Acumen, an association management company. She held positions as membership coordinator and association coordinator during her tenure there, with responsibilities as diverse as assisting with planning annual meetings, writing and distributing press releases, maintaining information in the membership database, and integrating the online community.

“You may rest assured that AANEM’s meeting planning needs are in good hands with Denae and Amy,” Adkins emphasized. “We look forward to having all of you meet them in Hawaii in October.”

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**Wake Health Ultrasound Workshop**

**Presented by** Wake Forest School of Medicine and AANEM

**Francis Walker, MD, Director**

**Michael Cartwright, MD, Coordinator**

The Neuromuscular Ultrasound workshop focuses on applications in muscle disease, peripheral and cranial nerve imaging, and introduction to the use of ultrasound in evaluating musculoskeletal disorders. Lectures are integrated with hands-on demonstrations of technique and case interpretation. A small group format facilitates questions and answers and tailors the educational experience to meet the specific needs of individual participants. It is in real-time use of the instrument that the practitioner recognizes the importance of this type of basic knowledge and it is in this context that they can apply this knowledge to troubleshoot difficult imaging cases, identify artifacts, and improve resolution at the bedside.

**April 9-10, 2015, Cost: $950**

For more information visit www.WakeHealth.edu/ultrasound or contact cmu@wakehealth.edu or meeting@aanem.org
Research Award Opportunities for AANEM 62nd Annual Meeting in Honolulu

The AANEM Foundation for Research & Education funds annual awards in conjunction with the AANEM Annual Meeting. The awards provide physicians the opportunity to be recognized among their peers for their work while encouraging research in NM and EDX medicine. All selected research must be presented at the AANEM 62nd Annual Meeting in Honolulu, HI, October 28-31, 2015.

Submissions may include previously presented research that has not been published in full manuscript form. Each submission will be judged according to scientific merit, methodology, manuscript form, and the candidate’s contribution to the project. All accepted abstracts will be published in Muscle & Nerve and Clinical Neurophysiology and recipients receive recognition in the meeting guide and on their poster.

A brief description of each award is presented below. All abstracts must be submitted online at www.aanem.org by March 1, 2015. Submitters may indicate award interests during the online abstract submission process. Award categories include:

**Junior Member Recognition Award**
To receive this award, the first author of the abstract must be a resident or fellow and an AANEM member at the time of submission and must present the abstract at the 2015 Annual Meeting. Award recipients will receive $200.

**President’s Research Initiative Award**
This award was created to support the research goals of the AANEM Foundation and encourages research in a particular area. This year, the topic for the President’s Award is “Value of an Accurate Diagnosis.” Up to 10 abstracts judged to be the most innovative and/or of the highest quality will be awarded $500. Both AANEM members and nonmembers are welcome to submit abstracts in this category.

**Best Abstract Award**
All abstracts submitted to the AANEM will be considered for the Best Abstract Award unless the authors indicate they do not wish to be considered. No additional manuscript or expanded abstract is needed for consideration. The criteria for this award includes: an abstract of excellent scientific merit that is well written with excellent discussion and exhibits important research and/or is a fascinating case. Both AANEM members and nonmembers are welcome to participate. The winner receives a $500 award, round-trip coach air transportation (up to $500 domestic/Canada or $1000 international) to the annual meeting, three nights’ hotel accommodations, waiver of the annual meeting registration fee, and is allowed a 20-minute presentation at the annual meeting.

**Golseth Young Investigator Award**
This award is presented for original research in NM and EDX medicine. Candidates must be students in an MD, DO, DVM, or foreign equivalent program; residents; or fellows in-training. In addition, physicians in their first three years following the completion of training may apply. A manuscript of no more than 2500 words must be received in the AANEM office no later than March 15, 2015. The manuscript must be accompanied by a letter of eligibility from the candidate’s program director and a letter from the candidate stating their percentage of contribution to the research. The winner receives a $1000 award, round-trip coach air transportation (up to $500 domestic/Canada or $1000 international) to the annual meeting, four nights’ hotel accommodations, waiver of the annual meeting registration fee, and is allowed a 20-minute presentation at the annual meeting.

**Technologist Member Recognition Award**
This award encourages technologists to conduct and share research to advance the science of neuromuscular diseases. Technologists are eligible for the Foundation’s poster awards, the President’s Research Initiative Award, and Best Abstract Award. To qualify for this award, first author must be a Technologist Member at time of abstract submission. The winners receive $200 cash.

**International Financial Assistance Award**
Physicians in economically disadvantaged regions may apply for funds to attend the AANEM Annual Meeting. Physicians who submit an abstract to present at the AANEM meeting will be given priority. The International Finance Assistance Award winners receive $1000 cash and free annual meeting registration. Eligible applicants should send an email to foundation@aanem.org that outlines in detail their medical training background, reason for deserving the award, and reason for interest in the AANEM Annual Meeting. Funds are also awarded through the North American Chapter of the International Federation of Clinical Neurophysiology.

AANEM PRESIDENT (2013-14), FRANCIS O. WALKER, MD, PRESENTS K. MING CHANG, MD, WITH THE 2014 BEST ABSTRACT AWARD
The 62nd AANEM Annual Meeting will be held in Honolulu, HI. The top-notch educational content offered will include topics such as:

- Electrodiagnostic Medicine in Challenging Circumstances
- Neurogenetics of Neuromuscular Disease
- The Value of Quality
- And much more!

The workshop schedule will return to its original format, with the hands-on sessions taking place all day Wednesday and on Saturday morning, while the “Ask The Expert” sessions will remain on Thursday and Friday mornings, as they were in 2014.

When you’re not at the Annual Meeting learning about the latest in EDX and neuromuscular medicine, be sure to take in the beauty and excitement of everything Hawaii has to offer. The Hilton Hawaiian Village, the official hotel of the 2015 Annual Meeting, is set on 22 oceanfront acres of Waikiki’s widest stretch of beach. The property boasts five pools, 20 restaurants and bars, the Mandara Spa, and Camp Penguin children’s program. With endless activities, attractions, and high-end shopping options within walking distance of the resort, you and your guests are guaranteed to enjoy your time in Honolulu. Annual Meeting registration opens in June 2015. Visit www.aanem.org/meeting for more details.
Advocacy

Working for You in 2014

BY MILLIE BIRR, JD, MPP, HEALTH POLICY DIRECTOR

The AANEM Advocacy Department’s staff and volunteer leadership represented members’ interests in exciting new ways in 2014. From the first-ever Congressional Hill Day to meetings with government officials and private payers about combatting fraud and abuse in EDX medicine, AANEM is working diligently to improve its members’ interests.

Position Statements

Two new position statements were created and posted to the AANEM website in 2014:

- What Does ‘On Site’ and ‘Real Time’ Mean? – Defines the terms “on site” and “real time” as used in the AMA’s CPT codebook for nerve conduction studies (NCSs). Can be utilized to combat fraud and abuse by providers who are not on site performing or overseeing the NCSs and interpreting the results on site, in real time as the tests are performed.

- Electrodiagnostic Medicine: Pay for Quality – Explains how a value-based reimbursement system for properly-performed EDX testing and assessment of a patient will increase the value of each healthcare dollar spent. Can be used in negotiations with insurers.

Support AANEM’s advocacy efforts by contributing to the AANEM Advocacy Fund!

The Association will use your dollars to educate payers about the importance of quality EDX and NM medicine and continue to defend against unqualified persons from providing services. Give at www.aanem.org/Practice/Advocacy-Fund.aspx

Congressional Outreach

On September 15, 26 state liaisons met with 76 congressional offices to discuss NCS/EDX reimbursement issues, SGR repeal, and other health policy issues. The visits focused on the flawed process that precipitated the cuts, the impact the cuts have had on patients and physicians, and potential solutions for stopping fraud and abuse in EDX medicine, such as the AANEM Laboratory Accreditation Program.

Accessing Fraud and Abuse

AANEM policy staff facilitated conference calls with two large private payers in which Peter Grant, MD, shared a fraud and abuse presentation via PowerPoint. The presentations were very well received, with one of the payers inviting Dr. Grant to present on a national provider call.

AANEM developed a close relationship with the National Healthcare Anti-Fraud Association’s (NHCAA), hosting a booth at the NHCAA’s Anti-Fraud Expo in November. Over 100 special investigators, FBI, and OIG agents and others working in the healthcare fraud industry stopped by the booth. Additionally, Peter Grant, MD, and Ronald Bingham, MD, both presented at NHCAA conferences in the past year.

Following the April Office of Inspector General (OIG) report on “Questionable Billing for Medicare Electrodiagnostic Tests,” AANEM established a relationship with one of the study’s authors, providing her with data identifying likely fraudulent behavior by providers, specifically mobile labs. AANEM is also working with AAPMR and AAN to draft a response letter to the OIG report.

Medical Policy Reviews

AANEM staff is now utilizing a software program that flags and sends the Policy Department every new or updated medical insurance (private and Medicare/Medicaid) policies related to EDX medicine. The policy staff reviews the entire police to ensure that it aligns with our position statements, drafting a letter with any deficiencies and including the relevant position statements. The insurers have accepted nearly every suggested change.

Position Statements

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www.aanem.org/Practice/Position-Statements.aspx

Other Efforts

- Partnered with several organizations, including CIDP-GBS Foundation International, in drafting a congressional sign-on letter, which led to successfully obtaining 2013 EDX claims data.

- Collaborated with AAPMR and AAN at RUC, CPT, and AMA House of Delegates meetings to ensure AANEM members have a voice in reimbursement and policy making.

- Provided educational resources on various Medicare incentive programs on the AANEM website and through newsletter articles.

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The Association will use your dollars to educate payers about the importance of quality EDX and NM medicine and continue to defend against unqualified persons from providing services. Give at www.aanem.org/Practice/Advocacy-Fund.aspx
**Practice**

**2015 Medicare Physician Fee Schedule: Updates You Should Know**

Friday, October 31 marked the release of Medicare’s final rule of the 2015 Physician Fee Schedule. If you haven’t had the opportunity to read the 1200+ page document (plus addendum), here is a brief summary of some of the items that could affect you and your practice:

- **Work Relative Value Units (RVUs):** all of the codes monitored by AANEM remained the same with exception of two codes—62310 (Injection of spine; cervical or thoracic) and 62311 (Injection of spine; lumbar or sacral)—which received an increase over their 2014 values.

- **The Physician Quality Reporting System (PQRS)** becomes a penalty-only program in 2015. Physicians must successfully report in 2015 to avoid PQRS penalties in 2017. Physicians must report on at least nine quality measures that cover three domains. The 2015 final rule now requires physicians to report at least one of the 18 new cross-cutting measures.

- Twenty-three new measures were added for individual and Measures Groups reporting

- There are two new Measures Groups available beginning in 2015 (Sinusitis and Otitis)

- Fifty measures were removed from PQRS.

- Four Measures Groups were removed from PQRS (Perioperative Care, Back Pain, Cardiovascular Prevention, and Ischemic Vascular Disease)

- **Value-based Payment Modifier (VM):** In order to fulfill a statutory mandate in the Affordable Care Act (ACA), the Centers for Medicare & Medicaid Services (CMS) finalized a rule that all Eligible Professionals (EPs), including solo practitioners, will be subject to a value-based payment modifier in 2015 based on quality and cost data submitted through the Physician Quality Reporting System (PQRS).

- In 2017, groups of EPs with 2-9 providers, as well as solo practitioners, will receive only the upward or neutral VM adjustment.

- Groups with 10+ EPs will begin receiving a bonus, no adjustment or a penalty in 2016.

- **Sunshine Act:** Continuing medical education (CME) will not be reported under the Physician Payments Sunshine Act.

- **Surgical global periods will transition from 10- and 90-day pay periods to zero-day.** This means that all visits following a surgery will need to be billed separately. This transition will begin with the 10-day global services in 2017 and follow with the 90-day global services in 2018. Most services that electrodiagnostic and neuromuscular physicians perform are XXX or zero-day global.

- **Electronic Health Record (EHR) Incentive Program—** beginning in 2015, EPs will not be required to ensure that their Certified EHR Technology (CEHRT) products are recertified to the most recent version of the electronic specifications for Clinical Quality Measures (CQMs).

*Please note that although recertification is not required, EPs must still report the most recent version of the electronic specifications for the CQMs.*

Successful participation in the EHR Incentive Program, based on 2015 data, will be reflected on the Physician Compare website in 2016.

- **Greater transparency in rate setting** will occur now that CMS has finalized their proposal to publish and allow for public comment period on values for all new and revised codes before they are finalized. Current Procedural Terminology (CPT) and Relative Value Scale Update Committee (RUC) timelines will be modified for submitting new codes and revaluations to allow time for this shift to occur.

For more detailed summary of the changes to Relative Value Units (RVU) for codes specific to electrodiagnostic and neuromuscular medicine, members may log onto the Coding Toolkit found on the AANEM website.

Please continue to visit AANEM’s “Medicare” page, found under the “Practice” tab at www.aanem.org for more details on CMS incentive programs.
BY MILLIE BIRR, JD, MPP, HEALTH POLICY DIRECTOR

Negotiating With Payers: One Member’s Experience and Tips

BY MILLIE BIRR, JD, MPP, HEALTH POLICY DIRECTOR

Longtime AANEM member and liaison, Ben Wärfel, MD, took the time to discuss his recent successes in negotiating higher reimbursement from several private payers for nerve conduction studies and needle EMGs with AANEM staff.

‘Persistence’

When asked what the main driver behind his success was, Dr. Wärfel simply stated, ‘Persistence.’ This was a term he used repeatedly throughout the interview. After being asked to elucidate, he explained that it took several months of emails and phone calls by him and his staff to even land the meeting(s) with the right person(s), the person with some control over reimbursement, at private insurance companies.

He and his staff started by contacting their customer service representative (the individuals who his staff calls with coding or billing questions) from each of the insurers with whom they have contracts. They informed the representative that they wished to discuss the importance of and cost-savings of using high quality EDX providers; and, with the recent reimbursement cuts, it wasn’t financially feasible to continue to perform the tests. The customer service representative took their message back to the payer and the message began working its way up the chain of command until it eventually reached the right person—the medical policy director in charge of EDX medicine. This process took several weeks, and Dr. Wärfel and his staff diligently followed up with the representative (since most insurers won’t provide the contact information for the medical policy staff).

Talk With the Medical Director About Quality

Once Dr. Wärfel was finally able to sit down with the medical director (or speak over the phone), he began by defining quality EDX medicine and acknowledging the extensive fraud and abuse in the field.

“Most of the medical directors were familiar with the proliferation of fraud and abuse happening in EDX medicine,” said Dr. Warfel. He would then give real-world examples of the importance of high quality EDX medicine.

“I shared a story of one patient who had had a two-level cervical fusion but was still having symptoms. Once I performed EDX testing, I diagnosed the patient with carpal tunnel syndrome,” said Dr. Wärfel. “I explained that quality EDX medicine provides an accurate diagnosis the first time, with little to no need of repeat testing, and prevents unnecessary surgeries. It is both economical and efficient,” he stated.

During the discussion with payers, he also pointed out that his practice did not engage in overutilization of nerve conduction studies or abusive nerve conduction study billing. The payers were able to confirm this when comparing his practice’s billing history to other providers. The AANEM guides were also useful in the discussion.

“I focused the conversation on quality EDX medicine and how to identify quality providers, describing the importance of being boarded by the American Board of Electrodiagnostic Medicine,” he said. “I explained that the insurer could verify my practice’s quality by looking at my lab’s accreditation by AANEM’s EDX Laboratory Accreditation program and noting my lab’s exemplary status.”

Dr. Wärfel explained that EDX laboratory accreditation provides verification, through an objective, national peer-reviewed model, that their lab only practiced quality EDX medicine.

“The medical directors seemed particularly swayed by the objective standard of the lab accreditation program,” he concluded.

Increasing Reimbursement

Ultimately, Dr. Wärfel was able to obtain significant increases in reimbursement—averaging nearly 30%. However, although he was able to get increases, the reimbursement did not reach the levels prior to the 2013 Medicare cuts. Nonetheless, through persistence and objective proof of quality, specifically lab accreditation, Dr. Wärfel stated that he believed any AANEM member could replicate his efforts.

What are you doing to increase reimbursement? Send us an email at policy@aanem.org to let us know! ■

AANEM SEEKS ALTERNATE DELEGATE TO AMA HOUSE OF DELEGATES

The AANEM is seeking a neurologist interested in policy-making, legislative, and scope of practice issues to represent the AANEM in the AMA House of Delegate (HOD). The AANEM delegation consists of the delegate, the alternate delegate, and the AANEM’s policy analyst. One neurologist and one physiatrist make up the physician members of the AANEM delegation. The newly appointed alternate delegate will join William Pease, MD, (physiatrist) who is the incoming AANEM HOD delegate at the bi-annual HOD meetings.

The HOD delegate and alternate play important roles in coordinating advocacy activities with the other neuroscience based specialties as well with their state delegations for the advancement and protection of medical practice in general and NM and EDX physicians and their practices in particular. The person selected for this role will have the opportunity to gain a hands-on, “in-the-trenches” understanding of the process and politics involved in policy-making by the AMA. The opportunities for professional networking are significant. For a more detailed explanation of HOD, see the AMA HOD webpage. All travel expenses are paid by AANEM.

Responsibilities of the HOD Alternate:

• Be a Member of the AMA
• Be open to exposure to wide ranging issues/policies affecting current and future medical practice
• Be open to mentoring in the procedures of the HOD by Dr. Pease, Millie Birr, and delegates/staff of organizations like the AAN and AAPMR
• Be available to attend the bi-annual HOD meetings—in June (Chicago) and in November (location varies year-to-year but tends to be in a warm location). The meetings are 4-5 days in length, usually beginning Saturday morning and ending on Tuesday at noon.
• Be able to review proposed resolutions and council reports distributed by the AMA prior to the HOD meetings and work with the AANEM staff, as well as with partner associations, such as AAN and AAPMR, to decide on support or opposition of proposed resolutions or council reports
• Be available to work with AANEM staff and physician experts in other like-minded delegations to develop resolutions.
• Be able to think on one’s feet and interact collegially with people from different backgrounds.

To indicate your interest in this opportunity: Please email a brief statement of interest with current contact/bio information and a CV to policy@aanem.org no later than March 15, 2015. Please be sure to put “HOD” in the subject line. ■
EFFECTIVE JANUARY 1, 2015, THE CENTERS FOR MEDICARE & MEDICAID SERVICES (CMS) HAS INTRODUCED FOUR NEW HEALTHCARE COMMON PROCEDURE CODING SYSTEM (HCPCS) MODIFIERS THAT ARE DESIGNED TO BE MORE DESCRIPTIVE SUBSETS OF MODIFIER -59.

Modifier -59 (distinct procedural service), has historically been problematic simply because it applies to such a wide variety of circumstances. According to CMS, not only is this one of the most commonly used modifiers, but it is also one of the most commonly misused and abused modifiers. In the One Time Notification transmittal 1422 titled: Specific Modifiers for Distinct Procedural Services released by CMS on August 31, CMS states that “some providers incorrectly consider it [modifier -59] to be the modifier to use to bypass NCCI [edits],” CMS argues that they estimated an overpayment of $770 million in one year due to incorrect usage of billed lines that were associated with modifier -59. While this overpayment is not entirely due to incorrect modifier -59 usage, it has been observed that incorrect modifier usage is a major contributor. CMS believes that more precise coding options with increased education and selective editing is needed to reduce the errors associated with this overpayment.

Since the definition of Modifier -59 is so broad, CMS has created four new HCPCS modifiers that are much more specific:

- **XE: Separate Encounter**—a service that is distinct because it occurred during a separate encounter
- **XS: Separate Structure**—a service that is distinct because it was performed on a separate organ/structure

**What does this mean for your practice?**

- Pay attention to all bulletins that you receive from your Medicare contractor (MAC) that may require the use of –X modifiers.
- If no requirements are set forth by your MAC, selective requirement of the –X modifiers might still apply. Make sure your coding team is aware of these new modifiers for Medicare patients.
- Private payers will continue to utilize the -59 modifier exclusively for calendar year 2015.

AANEM SEEKS A CURRENT PROCEDURAL TERMINOLOGY ALTERNATE ADVISOR

The AANEM is searching for physicians interested in coding and reimbursement and wishing to increase awareness of EDX and NM medicine to represent AANEM at the American Medical Association’s (AMA) Current Procedural Terminology (CPT) Advisory Committee. The CPT alternate advisor plays an important role in establishing new and revised EDX and NM codes and works with the AMA/Specialty Society Relative Value System Update Committee to assign relative value units to new and already established EDX and NM CPT Codes. These are critical functions that allow AANEM members to bill properly for services rendered and to receive reimbursement for such services. The CPT Alternate Advisor will work closely with the CPT Advisor to ensure the accurate description of services provided by EDX and NM physicians.

The CPT Advisory Committee provides support to the CPT Editorial Panel, which is responsible for maintaining the CPT code set. The CPT Editorial Panel is authorized by the AMA Board of Trustees to delete, revise, and develop new CPT codes, rules, and guidelines.

**Basic Responsibilities of the CPT Alternate Advisor:**

- Closely collaborates with other specialty societies to review and select proposals before they are sent to CPT to determine AANEM involvement.
- Represents the coding perspective of EDX and NM medicine
- Prepares for presentations to the CPT Editorial Panel with both staff and other specialty societies (conference calls and during the CPT meetings).
- Maintains close communication and collaboration with AANEM’s RUC Advisor and Alternate Advisor
- Shows willingness and flexibility to travel—CPT Editorial Panel meets three times yearly, usually in the months of February, May, and October. Each meeting is approximately 3-4 days in length.
- Specialty focus of physical medicine and rehabilitation is a plus to bring balance to the neurology specialty already represented by AANEM’s CPT advisor.

**To indicate your interest in this opportunity:**

Please email a brief statement of interest with current contact/bio information and a CV to policy@aanem.org no later than April 31, 2015. Please be sure to put “CPT” in the subject line.
A new guideline from the American Academy of Neurology (AAN) and the AANEM recommends doctors use a physical exam and certain lab test results to help determine what genetic tests help diagnose a person’s subtype of limb-girdle or distal muscular dystrophy. The guideline was published in the October 13, 2014, online issue of Neurology®, the medical journal of the AAN. The full guideline can also be found on AANEM’s website.

While there is no cure for these disorders, complications can be managed. The guideline makes recommendations about treating and managing complications, which may include muscle symptoms, heart problems and breathing problems.

This podcast is an interview by Dr. Ted Burns with Drs. Anthony Amato and Pushpa Narayanawami about the article: Evidence-based Guideline Summary: Diagnosis and Treatment of Limb-Girdle and Distal Dystrophies. A Report of the Guideline Development Subcommittee of the AAN and the Practice Issues Review Panel of the AANEM.

The podcast can be found in the AANEM Marketplace at www.aanem.org under “podcasts.” It is also available through iTunes.
The American Board of Psychiatry and Neurology, Inc. (ABPN) announced recipients of its 2015-16 Faculty Innovation in Education Awards, and AANEM member Andrea Leep Hunderfund, MD, was one honoree. The awards support the development of innovative education and/or evaluation projects that promote effective residency/fellowship training or lifelong learning of practicing psychiatrists and neurologists.

“This year’s fellows were selected from an excellent group of applicants,” said Larry Faulkner, MD, ABPN President and CEO. “Each fellow’s proposed project has broad implications for psychiatry and neurology education or evaluation.”

Dr. Leep’s project involves developing a conceptual framework for the assessment and continuous improvement of professionalism among practicing physicians. Her team will also propose a model for incorporating professionalism into maintenance of certification (MOC) programs. “I was honored to receive this award on behalf of my team of collaborators,” Dr. Leep stated.

“The purpose of medical professionalism is to ensure that physicians are worthy of patient and public trust. Starting in 2015, the American Board of Medical Specialties will require professionalism learning and assessment to be incorporated into MOC programs. Our goal is to propose an approach for doing this that is meaningful and feasible for practicing physicians and aligns with things many organizations are already doing to promote physician professionalism.”

As it is implemented, Dr. Leep and her team hope that their framework will reflect an updated view of professionalism as a multidimensional competency that “develops over the course of a medical career, is manifest by observable behaviors, involves specific teachable skills, and recognizes the complexities and challenges that providers face in the current health care environment.”

An assistant professor of neurology at the Mayo Clinic, Dr. Leep has collaborated with Devon Rubin, MD, to develop “Real EMG©,” an online, interactive, case-based educational product offered through the AANEM. She hopes her new efforts also will benefit AANEM members by providing them “with a blueprint they can use to identify approaches to the assessment of professionalism that are meaningful and relevant to the practice of neuromuscular and electrodiagnostic medicine.”

Initially, Dr. Leep's professionalism project will focus on physicians, “but we anticipate that it will be equally relevant to other members of the health care team, including technologists and trainees,” she added.

The AANEM works closely with the ABPN on receiving approval for its many CME activities, including those approved for primary board MOC purposes. The ABPN is a not-for-profit corporation dedicated to serving the public interest and the professions of psychiatry and neurology by promoting excellence in practice through certification and maintenance of certification processes.
YOUR SCHEDULED APPOINTMENT
Date:___________________________________
Time:___________________________________
With:___________________________________
If you have any questions, they will be answered at the time of your examination, or call __________________________________

ONLINE RESOURCES
Visit www.aanem.org/patients for more information on muscle and nerve disorders, to find an EDX board certified doctor, to find an accredited laboratory, and to watch the video, “What to Expect During a Nerve Conduction Study and EMG Test.”

The American Association of Neuromuscular & Electrodiagnostic Medicine (AANEM) was founded in 1953. It has nearly 5000 physician and allied health members worldwide. The AANEM aims to ensure quality care for patients with muscle and nerve disorders.

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WHAT EXACTLY ARE NERVES & MUSCLES?
Nerves work like electrical cords—they send signals to your brain from your body and from your brain to your muscles. Your muscles are the tissues in your body that make you move.

When functioning properly, the nerves send electrical impulses to the muscles. A nerve disorder means that signals are not getting through like they should. A muscle disorder means that muscles aren’t responding to the signals correctly.

POPULAR PRODUCTS in the MARKETPLACE

To purchase any of the following products, visit www.aanem.org/marketplace and search for the item by its title.

1. SAE: Electrodiagnostic Self-Assessment Exam
   Use AANEM’s self-assessment examinations to brush up on your EDX knowledge, study for the American Board of Electrodiagnostic Medicine (ABEM) or neuromuscular medicine certification examinations, or to meet primary board Maintenance of Certification (MOC) requirements. They are an excellent study guide to review at your own pace. To locate all 12 of the self-assessments available, choose “Self-Assessment” in the “Browse by Type” section of the Marketplace.

2. Invited Review: Asymptomatic/Pauci-Symptomatic Creatine Kinase Elevations (HyperCKemia)
   Members Free CME -- Available to Members ONLY -- 2 AMA PRA Category 1 Credits ™
   In this review, the authors summarize the literature based on series of patients with asymptomatic hyperCKemia and provide a rational clinical approach to reveal identifiable underlying causes.

3. Invited Review: The Thoracic Outlet Syndromes
   Members Free CME -- Available to Members ONLY -- 2 AMA PRA Category 1 Credits ™
   The primary focus in this study is on the neurologic forms of thoracic outlet syndrome. However, for completeness and a better understanding of these neurologic manifestations, the vascular forms are also reviewed. To view all 41 invited reviews available for CME, choose “Journal Review” in the “Browse by Type” section of the Marketplace.

4. Brochure: What to Expect During Your EMG Test
   Begin an informed discussion with your patients with this brochure explaining electrodiagnostic medicine, nerve conduction studies, needle EMG, and evoked potentials in simple terms to help your patient understand the tests you will be performing. The back cover can be personalized with the physician’s name, address, and telephone number.

5. Monograph: Electrodiagnosis of Carpal Tunnel Syndrome
   Carpal tunnel syndrome is the most common nerve entrapment. EDX studies are a valid and reliable means of confirming the diagnosis. This monograph addresses the various EDX techniques used to evaluate the median nerve at the wrist. To view all 20 Monographs available for CME, choose “Monograph” in the “Browse by Type” section of the Marketplace.
Innovative Science You Might Have Missed

CONTINUED FROM PAGE 3

Oral Treatment for Spinal Muscular Atrophy


Spinal muscular atrophy is a devastating and progressive motor neuron disease caused by a homozygous loss of the SMN1 gene. Importantly, the paralogous SMN2 gene differs from SMN1 by a change at nucleotide 840, leading to alternate splicing and therefore exclusion of exon 7. In this study, the authors performed a small molecule library screen using the SMN2 minigene, and identified three series of compounds (designated SMN-C1, SMN-C2, and SMN-C3) which would modulate SMN2 pre-mRNA splicing, so as to include exon 7. These compounds were further tested in cultured fibroblasts and cultured motor neurons from patients with SMA. Administration of these compounds to a mouse model of severe SMA led to an increase in SMN protein levels, improvement of motor function, and an increase in life span. Given the concerns over potential global disruption in alternate splicing, the authors assessed for off-target effects. Only six genes were significantly disrupted, suggesting minimal off-target effects.

Comment: This study is the first to identify an orally-administered compound that could be effective in treating SMA. It remains to be seen whether the off-target effects noted in this study prove limiting in humans. Clinical trials will be necessary to understand the full potential of these compounds. ■

Possible New Target for Neuropathic Pain Therapies


Neuropathic pain is associated with reduced GABAergic inhibitory function. Recent studies have shown that nociceptive neurons play a pivotal role in pain sensation in a modality-specific manner. However, the mechanisms behind nociceptor-mediated modulation of GABA signaling are unclear. Gaillard, et. al., identified a new protein, GINIP, a Gαi-interacting protein, through Affimetrax microarrays technology. GINIP was found to be expressed in two distinct subsets of nociceptors: the cutaneous free nerve ending MRGPRD-expressing neurons and C-LTMRs (low threshold mechanoreceptors). GINIP knockout mice develop a selective and prolonged mechanical hypersensitivity in models of inflammation and neuropathy and also showed impaired responsiveness to GABA_A. GINIP-deficient dorsal root ganglia neurons had consistently lower inhibition of high-voltage-activated calcium channels and a defective inhibition of interneurons within the spinal cord.

Comment: Painful peripheral neuropathy is a very common and challenging problem to manage. It is associated with a marked imbalance between excitatory and inhibitory neurotransmission in the dorsal horn of the spinal cord. Nociceptive neurons represent a major site of action for therapies for neuropathic pain (i.e., opioids, cannabinoids, and GABA derivatives). This study identified a new key pain modulator, GINIP, which could serve as a target for future neuropathic pain therapies. ■

Becker Muscular Dystrophy Patients May Benefit from Follistatin


Myostatin pathway regulation has a role in the development of muscle. It has been demonstrated in mice and primate models that inhibition of myostatin using the myostatin-antagonist follistatin results in muscle hypertrophy in animals with muscular dystrophy. In this study, Mendell and colleagues evaluate the hypothesis that myostatin inhibition will result in increased muscle mass and function in patients with Becker muscular dystrophy (BMD). Six ambulatory men with genetically confirmed BMD were studied. Follistatin was delivered using an adeno-associated virus capsid by direct injection into bilateral quadriceps muscles under ultrasound and EMG guidance. Patients were divided into two cohorts with cohort one receiving a lower dose than cohort two (3x10^{11} vg/kg/leg in cohort one and 6x10^{11} vg/kg/leg in cohort two). In both cohorts, two of the three patients had significant increases in their six-minute walk distances. Post-treatment muscle biopsies in four of the six patients (one patient refused and one had significant fibrosis, making interpretation difficult) demonstrated an increased number of muscle fibers per unit area. None of the patients had significant side effects.

Comment: This study demonstrates that follistatin can increase both muscle fiber number and function in patients with BMD. Incorporation of the follistatin gene using an adeno-associated virus vector was found to be safe. Further evaluation is needed to understand why only two out of the three patients in both cohorts had a functional improvement. This technique and concept shows promise, and warrants study in a larger cohort. ■
Announcing the Firdapse™ Expanded Access Program (EAP)

Now, patients diagnosed with Lambert-Eaton Myasthenic Syndrome (LEMS) or Congenital Myasthenic Syndrome (CMS) can gain access to an exciting investigational treatment

BREAKTHROUGHTHERAPY WITHIN REACH

EAP benefits include:
- Free access to Firdapse™, which has shown positive Phase 3 trial results
- Firdapse™ is well tolerated and was designated a “Breakthrough Therapy” by the FDA

Call 1-844-FIRDAPSE (1-844-347-3277), toll free, for information about EAP enrollment qualifications and protocol.

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AANEM ACCREDITS NEW ELECTRODIAGNOSTIC LABORATORIES

Semmes-Murphey Clinic PC – John Thomas, MD
Vincent Di Carlo, M.D. & Associates, P.A. DBA Neurology & Physical Therapy Centers of Tampa Bay – Rosanna Garner, MD *
Rothman Institute – Mitchell Freedman, MD
Mount Vernon Rehabilitation Medicine Associates – Kevin Fitzpatrick, MD *
Athens Orthopedic Clinic Electrodagnostic Laboratory – Joseph Savitz, DO
University Minnesota Health Electrodagnostic Laboratory – David Walk, MD *
Neurolgy, Neurosurgery, and Spine Clinic of South Georgia – Hernan Posas, MD
Advanced Sleep & Neurodiagnostic Services – Sajjan Nemani, MD *
The Neurology Center at Mercy – Bonnie Gerecke, MD *
RiverBend Medical Group EMG Lab – Rose Bernal-Larioza, MD *
Hospital of the University of Pennsylvania, Department of Neurology – Shawn Bird, MD *
Baylor Scott & White Health Round Rock – Jeffrey Tramonte, MD *
Montefiore Medical Center EMG Laboratory – Steven Herskovitz, MD
Alabama Neurology & Sleep Medicine – Thomas Emig, MD
St. Vincent Hospital EMG Laboratory – Jayant Phadke, MD *
Geisinger Medical Center – Scott Friedenberg, MD *

*Aemplyar Status

The AANEM Career Center has the most coveted selection of neurologist, physiatrist, and electroneurodiagnostic technologist jobs. AANEM Career Center is the official AANEM job board and is the first place employers go to list their opportunities.

www.aanem.org/careers