

AANEM Virtual Annual Meeting

# PROGRAM

October 7 - 10, 2020

[All times are shown in Central Daylight Time.]



American Association of Neuromuscular & Electrodiagnostic Medicine

Including a session by the Peripheral Nerve Society

# The one-time-only dose to stop SMA progression

ZOLGENSMA is a gene therapy for pediatric patients less than 2 years of age with spinal muscular atrophy (SMA), that is delivered as a single-dose, 1-hour intravenous infusion<sup>1</sup>



## Significant survival

91% (20/22) of patients were alive and free of permanent ventilation at the 14-months-of-age study visit, a **primary endpoint**, and at 18 months of age<sup>2,a,c</sup>



## Motor milestones achieved

59% (13/22) of patients achieved the ability to sit without support for  $\geq 30$  seconds at the 18-month study visit, a **primary endpoint**<sup>2,a</sup>  
86% (19/22) of patients achieved one or more motor milestones by 18 months of age<sup>2,a</sup>



## Rapid onset

As early as 1 month post infusion, CHOP INTEND scores increased from baseline by a mean of 6.9 points (N=22)<sup>2,a</sup>

The efficacy of ZOLGENSMA was evaluated in STRIVE, a completed, open-label, single-arm, multicenter, Phase 3 clinical trial of patients with SMA Type 1 (genetically confirmed bi-allelic *SMN1* deletion, 2 copies of *SMN2*, and <6 months of age at symptom onset and treatment; N=22).<sup>1,a,b</sup>



## Get started with ZOLGENSMA today:

Call 1-855-441-GENE (4363) or learn more at [ZOLGENSMA-hcp.com](http://ZOLGENSMA-hcp.com)

**500+**  
**PATIENTS**  
TREATED AS OF  
APRIL 30, 2020<sup>2</sup>

<sup>a</sup>One patient was initially classified as presymptomatic and removed from the intent-to-treat (ITT) data set included in the Prescribing Information. The patient was later confirmed to be symptomatic at baseline and included in the final ITT analysis.<sup>2</sup>

<sup>b</sup>One patient died at age 7.8 months due to respiratory failure, which was considered unrelated to treatment. One patient withdrew consent at 11.9 months of age; this patient required permanent ventilation at 11.0 months prior to withdrawal of consent. One patient discontinued participation at the age of 18.0 months, before the month 18 end-of-study visit, due to an adverse event of respiratory distress, which was considered unrelated to treatment.<sup>2</sup>

<sup>c</sup>Event is defined as death or the need for permanent ventilatory support consisting of  $\geq 16$  hours of respiratory assistance per day continuously for  $\geq 14$  days in the absence of an acute reversible illness, excluding perioperative ventilation.<sup>1</sup>

## Indication and Important Safety Information

### Indication

ZOLGENSMA is an adeno-associated virus vector-based gene therapy indicated for the treatment of pediatric patients less than 2 years of age with spinal muscular atrophy (SMA) with bi-allelic mutations in the *survival motor neuron 1 (SMN1)* gene.

### Limitations of Use

The safety and effectiveness of repeat administration or the use in patients with advanced SMA (e.g., complete paralysis of limbs, permanent ventilator dependence) has not been evaluated with ZOLGENSMA.

## Important Safety Information

### BOXED WARNING: Acute Serious Liver Injury

**Acute serious liver injury and elevated aminotransferases can occur with ZOLGENSMA. Patients with pre-existing liver impairment may be at higher risk. Prior to infusion, assess liver function of all patients by clinical examination and laboratory testing (e.g., hepatic aminotransferases [aspartate aminotransferase (AST) and alanine aminotransferase (ALT)], total bilirubin, and prothrombin time). Administer a systemic corticosteroid to all patients before and after ZOLGENSMA infusion. Continue to monitor liver function for at least 3 months after infusion.**

## WARNINGS AND PRECAUTIONS

### Thrombocytopenia

Transient decreases in platelet counts, some of which met the criteria for thrombocytopenia, were observed at different time points after ZOLGENSMA infusion. Monitor platelet counts before ZOLGENSMA infusion and on a regular basis for at least 3 months afterwards.

### Elevated Troponin-I

Transient increases in cardiac troponin-I levels were observed following ZOLGENSMA infusion. Monitor troponin-I before ZOLGENSMA infusion and on a regular basis for at least 3 months afterwards.

## ADVERSE REACTIONS

The most commonly observed adverse reactions (incidence  $\geq 5\%$ ) in clinical studies were elevated aminotransferases and vomiting.

**Please see Brief Summary of Prescribing Information on the adjacent page.**

**References:** 1. ZOLGENSMA [prescribing information]. Bannockburn, IL: AveXis, Inc; 2019. 2. Data on file. AveXis, Inc. 2020.



## WELCOME TO THE AANEM ANNUAL MEETING

---

YUEN SO, MD PHD, AANEM & ANF PRESIDENT

Greetings! Thank you for choosing to attend the 67th AANEM Annual Meeting. I wish we were all in Orlando as originally planned. With the constraints imposed by the pandemic, we have reorganized our programs into an online virtual format. This meeting is still the premier event in NM and EDX medicine with comprehensive offerings in a wide range of topics in our field. There will be updates on the latest developments in NM medicine. This is timely because of the explosion of new therapeutics for NM diseases. We have reformatted popular sessions from past meetings for online virtual delivery. They will provide outstanding learning opportunities just like before. Furthermore, all our sessions are available on demand at no additional cost for 30 days so that you can view any sessions you missed.

For our plenary sessions, we are fortunate to have speakers who are not only world renowned leaders in their fields, but are also engaging presenters who can convey ideas eloquently. We will hear from them about the success and challenges of the many new treatments emerging in NM medicine. An exciting new addition this year is the Surinderjit Singh young lectureship. This was established to engage Young investigators, who are clearly the future of our organization.

Our poster sessions are once again rich with outstanding research submitted by our colleagues. Visit our virtual Poster Hall. Each poster has its own meeting room that you can talk live to the authors during designated poster hours. You can even send questions to the presenters after hours using the meeting software to communicate email them your question or you can use the networking directory to set up a meeting. Don't forget to congratulate the various AANEM award recipients.

Another goal of our annual meeting is to provide networking opportunities to bring our community closer together. While nothing comes close to meeting in person, we are hopeful that our meeting software will bring back most of this important experience. Do explore the directories for the attendees, which include speakers, poster presenters, and of course, your old friends and colleagues. It is easy to initiate contact from a world away. You can also set up private chat rooms for reunions with old friends.

Despite all the challenges we face in 2020, I am optimistic about our future. I cannot remember a more exciting time in NM medicine. The combination of powerful diagnostic tools and new therapeutic options give us an unprecedented opportunity to improve the life of our patients. Our organization will continue to work towards advancing the interests of our members and our patients. If you are not yet an AANEM member, I encourage you to join this wonderful community of dedicated physicians, technologists and researchers.

Have a great time with our meeting!

A handwritten signature in black ink, appearing to read "Yuen So".





# Table of Contents

3	Need to Know Information
5	CME/CEU Information
6	Networking Events
7	Bring the Meeting Home!
9	Plenary Speakers
10	Wednesday Schedule
15	Thursday Schedule
19	Friday Schedule
23	Saturday Schedule
29	2020 AANEM Achievement Awards
33	2020 Abstract Award Winners
38	Exhibitors
43	AANEM Corporate Supporters
44	Acknowledgments & Appreciation
45	AANEM Staff
47	2019-2020 Board of Directors
49	Meeting Objectives & Policies

# Need to Know Information

## How do I connect with other attendees?

You can connect using the Networking Directory. Click on the attendee you want to talk to. You can then either choose to request a video chat or schedule a meeting. The attendee will receive a notification in the platform and via email. They will need to accept your invitation. You can also connect with other attendees during a session. While in a session, on the left navigation, choose the symbol that looks like a group of 3 people. In the window that opens, click the Start a New Room button. Enter a name for your room and then choose the attendees you want to invite to join you in a room. Hit Create. The people that you invited can then accept your invitation to join you in a room. When you are done, just use the red phone to return to the session.

## How do I connect with a speaker?

You can connect using the Speaker Directory. Click on the speaker you want to talk to. You can then either choose to request a video chat or schedule a meeting. The speaker will receive a notification in the platform and via email. They will need to accept your invitation.

## How do I connect with a poster presenter?

You can connect to a poster presenter by going to the Poster Hall. Select the poster of the author you wish to connect with. During poster hours then click Go to the vMeet Room. If it is outside the poster time, you can click on Ask a Question. The author will receive an email with your question. You can then set up a time to meet or correspond via email. The authors will be at their posters at the following times:

Abstract Poster Session I - Wed - 3:15 PM – 3:45 PM  
Abstract Poster Session II - Thu - 3:15 PM – 3:45 PM  
Abstract Poster Session III - Fri - 3:15 PM – 3:45 PM  
Abstract Poster Session IV - Sat - 3:15 PM – 3:45 PM

## How do I connect with an exhibitor?

You can connect with exhibitors during the exhibit hours by going to their booth in the Exhibit Hall. Once inside click Talk Live to enter their chat. If you want to contact an exhibitor outside of exhibit hours, check their booth. Most booth will provide links to contact them outside of the exhibit hours. Exhibit Hall hours are:

Wed - 1:00 PM - 1:30 PM  
Thu - 1:00 PM - 1:30 PM  
Fri - 1:00 PM - 1:30 PM

## Can I go into a private room with my friends?

Yes, you can do this either by going through the Networking Directory method described above or set up a meeting during a session also described above.

## What if I missed a session when it was live?

Recordings of the sessions can be found on the On-Demand Videos section of the virtual meeting platform. You can view any sessions that have already occurred in this section. All of the videos will be available for 30 days following the meeting in the platform for no charge. For an additional \$100, you can purchase the Annual Meeting Collection, which provides access for 3 years. To purchase the annual meeting collection visit the AANEM website.

# Need to Know Information

## How do I claim CME, CEUs or SA credit?

Information about claiming these can be found on the Claim Your Credit page.

## Where do I find disclosure information?

These are found on the Resources & Materials section of the platform.

## Where do I find information on the industry forums?

Times and topics of the industry forms can be found in the Resource & Materials section of the platform. They are at:

Wed - 9:15 AM - Sanofi Genzyme

Wed - 12:00 PM - Genentech

Thu - 9:15 AM - Akcea Therapeutics

Fri - 9:15 AM - UCB

Fri - 12:00 PM - Alnylam

Sat - 9:15 AM - Biogen

## What is the \$1000 drawing taking place at the industry forums?

Attendees at the forum will be eligible for a drawing. You must be present to win. See additional rules linked on the login page for the platform.

## When are the Self-Assessment sessions?

Wed - 10:30 AM - Hot Topics in NM Literature – Part 1

Wed - 1:30 PM - Hot Topics in NM Literature – Part 2

Thu - 10:30 AM - EDX NM Challenging Cases – Part 1

Thu - 1:30 PM - EDX NM Challenging Cases – Part 2

Fri - 3:45 PM - Peripheral Anatomy Root/Muscle

Sat - 10:30 AM - Basic EDX

Note: 2 sessions must be completed for each 9 Self-Assessment CME credits.

## When are the CNCT Checkpoints?

Fri - 3:45 PM - Peripheral Anatomy Root/Muscle

Sat - 1:30 PM - Upper Extremity NCS

Sat - 3:45 PM - Tip of the Iceberg

## Where are future AANEM meetings?

2021 – October 13-16 in Aurora, CO

2022 – September 21-24 in Nashville, TN

## Share Your Experience on Social Media

Do you use social media? Have you liked and followed AANEM yet? Visit our pages and be sure to share your meeting updates on your own social media pages throughout the week. Use this hashtag - #AANEMvirtual



Facebook.com/AANEMorg



Twitter.com/AANEMorg

# CME/CEU Information

## Claiming Live CME/CEU

To claim CME/CEU for the sessions you attended live go to <https://education.aanem.org/URL/20cmeform>. Log in using your normal AANEM username and password.

Simply enter the total number CME/CEU hours for the sessions you attend throughout the week. You will not need to enter CME/CEU for each session individually. Since you can only claim the total CME/CEU hours once, be sure to wait until you are done attending the live sessions to claim your live CME/CEU. You can claim up to 23.75 live CME/CEU.

## Claiming On-Demand/Enduring CME/CEU

To claim Enduring CME for sessions you watch on demand during the 30-day period, go to <https://education.aanem.org/URL/2020OnDemand>. Log in using your normal AANEM username and password. This will bring you to a page that lists each session individually. Click on each session you attend and select the amount of CME/CEU credit you'd like to claim for that session. You can claim credit for both the on demand and the live since the American Council for Continuing Medical Education (ACCME) considers these 2 separate learning activities. The total you can claim for the on demand sessions is 77.75 credits.

## Claiming Self-Assessment CME – Physicians Only

To claim Self-Assessment CME, go to <https://education.aanem.org/URL/20SA>. Log in using your normal AANEM username and password. This will bring you to a list of individual sessions. Select the self-assessment sessions you attended and answer the post-test questions. You must receive a 70% on the post-test after 3 attempts to claim credit. Once you pass, you will be awarded the Self-Assessment CME credit, however you must complete two SA sessions to receive the 9 SA CME per ABPN and ABPMR requirements. You can claim up to 27 SAE CMEs.

## Claiming Checkpoint Credit – Technologists Only

To claim Checkpoint Credit go to <https://education.aanem.org/URL/20AMCheckpoints>. Log in using your normal AANEM username and password. You will be taken to a list of sessions that have Checkpoint credits. Select the sessions you attended and answer the post-test questions. You must receive a 70% on the post-test after 3 attempts to claim credit. Once you pass, you will automatically earn the Checkpoint credit. You can earn up to 3 Checkpoints. You will also receive 1 Checkpoint automatically for attending the meeting.



# Networking Events



## Virtual Mixology Class

*Wednesday, October 7 (6:15pm-6:45pm CDT)*

Join AANEM Executive Director Shirlyn Adkins and Professional Standards/Education Project Specialist Zoe Cantu for a live lesson on how to make 3 delicious drinks! The drinks are a cucumber-basil martini, a rosemary maple bourbon sour, and a coconut-rum tropical tiki drink. Each of these can be tailored to your preferences by being made more or less sweet, with different spirits, or with different sodas. Each drink can also be made as a non-alcoholic cocktail. Follow along with the demonstration and mix up your own drink!



## Fireside Chat With Spike and Wave

*Thursday, October 8 (6:15pm-7:45pm CDT)*

Join Spike and Wave for the first ever virtual meeting of these two iconic members. Enjoy a good laugh while learning too. This is meant to be a fun and interactive session so grab your best whisky, IPA, or other beverage, and have a great time. Check your seriousness at the virtual door!



## Amped Up

*Friday, October 9 (6:15pm-6:45pm CDT)*

Join us for a discussion about bringing music back to the AANEM! We will brainstorm ways to establish a musical presence at next year's AANEM Annual Meeting. Musicians of all genres and abilities, as well as music enthusiasts, are encouraged to join this exciting conversation. You'll also get the chance to see an AANEM member showcase his musical talents, and if there's time, you may get the chance to share your own!



## Michigan State University and Friends

*Friday, October 9 (6:15pm-6:45pm CDT)*

Join Dr. Mike Andary on his porch while he smokes a cigar and drinks a beer. You are invited if you trained at MSU, like someone who trained at MSU, or if you just want to say hi. We are looking forward to some great conversation.



## UH/Case NM/EDX Fellows

*Friday, October 9 (6:15pm-6:45pm CDT)*

Join Dr. Bashar Katirji for a get together with alumni from University Hospitals. All former faculty, trainees, and staff are welcome to join.



## Stanford Reunion

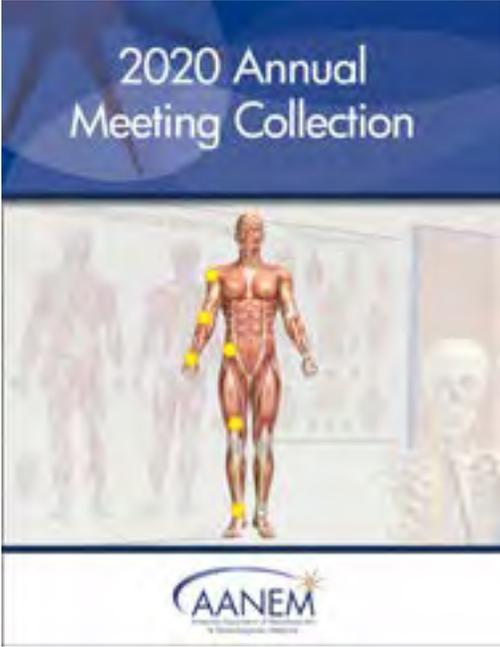
*Friday, October 9 (6:15pm-6:45pm CDT)*

Join Dr. Sarada Sakamuri for a reunion of Stanford alumni! All former faculty, trainees, and staff are welcome to join.

# Bring the Meeting Home!

2020 Annual Meeting Collection provides you access to all of the virtual sessions after the meeting has concluded. You may claim CME for any sessions you were unable to attend during the virtual meeting. The price of this product will increase to \$250 if purchased after the live virtual meeting concludes.

Buy Now  
**\$100**  
(through October 10)



# RARE NEUROLOGICAL DISEASE SPECIAL REPORT | MARCH 2020

*Neurology Reviews* is proud to announce the publication of its sixth annual *Rare Neurological Disease Special Report*. Articles include:

- In the Pursuit of Diagnoses, Can Crowdsourcing Be Dr. Watson to Our Sherlock Holmes?
- Current Trends and Opportunities in Rare Diseases Research
- Which Is the Right Genetic Test for Your Patient?
- Living in the Multifaceted World of Drug Development for Rare Diseases: A Conversation With Jeremy M. Levin, CEO of Ovid Therapeutics
- Angelman Syndrome: Etiology, Diagnosis, Management, and Novel Treatments
- What Can Phenotypic Variation Tell Us About Amyotrophic Lateral Sclerosis?
- New Therapies and Pipeline Drugs for Rare Neuromuscular Disorders
- Survey Identifies Gaps in Physician Knowledge About Cannabis and Cannabinoids
- Drug-Drug Interactions With Cannabidiol for Rare Seizure Disorders of Childhood
- Developments in the Genetics and Treatment of Rare Epilepsies
- The Spinal Muscular Atrophy Treatment Landscape
- Resolving Gaps in Transition to Adult Care for Patients With Rare Genetic Epilepsies

AVAILABLE  
NOW



To access full issue, visit

[www.mdedge.com/neurology/article/218784/rare-diseases/rare-neurological-disease-special-report](http://www.mdedge.com/neurology/article/218784/rare-diseases/rare-neurological-disease-special-report)

#### FOR MORE INFORMATION, CONTACT:

Elizabeth Katz, Publisher | *Neurology Reviews* | [ekatz@mdedge.com](mailto:ekatz@mdedge.com) | 973-224-7951

Toni Haggerty, Senior Director of Business Development | *Neurology Reviews* | [thaggerty@mdedge.com](mailto:thaggerty@mdedge.com) | 856-296-5705

# Plenary Speakers

## Emergent Therapies in NM Diseases



WEDNESDAY | 5:30 PM - 6:15 PM

**John W. Day, MD, PhD**

Art, Science, and Engineering of Outcome Measures for NM Disease  
*Olney Lecture*



THURSDAY | 8:30 AM - 9:15 AM

**Charlotte Sumner, MD**

The Success and Challenges of Gene Targeted Therapeutics in SMA



THURSDAY | 5:30 PM - 6:15 PM

**Craig M. McDonald, MD**

Novel Precision Therapeutics and Exercise Mimetics in Dystrophinopathy



FRIDAY | 8:30 AM - 9:15 AM

**Luis Querol, MD, PhD**

Antibodies in Inflammatory Neuropathies: What to Test, How to Test, Why to Test



FRIDAY | 5:30 PM - 6:15 PM

**Gil I. Wolfe, MD**

Therapeutic Landscape and Novel Therapies for Myasthenia Gravis  
*Reiner Lecture*



SATURDAY | 8:30 AM - 9:15 AM

**Merit Cudkowicz, MD, MSc**

ALS Therapeutics: New Treatments and New Approaches  
*Lambert Lecture*



SATURDAY | 5:30 PM - 6:15 PM

**Carolina Barnett-Tapia, MD, PhD**

Assessing New Health Technologies/Treatments  
*Surinderjit Singh Young Lectureship Award*

8:30 am - 9:15 am

## Plenary 1A: Emergent Therapies in NM Diseases

Session

*An Unprecedented Time*

Yuen T. So, MD, PhD

*Lifetime Achievement and Golseth/Best Abstract Awards Presentations*

0.50 CME/CEU

9:15 am - 10:15 am

## Industry Forum

Industry Forum

Respiratory Involvement in Neuromuscular Disorders: Pompe Disease as a Prototype

This program will (1) Educate healthcare providers regarding how to recognize the clinical features of Pompe Disease and monitor the disease with clinically relevant parameters; and (2) Highlight the importance of a multidisciplinary approach to managing Pompe Disease.

Speaker: Matthew Wicklund, MD

Sponsored By: Sanofi Genzyme

AANEM will conduct a drawing for a \$1,000 VISA gift card during this forum. Attendees must be present to win.

No CME/CEU

10:15 am - 10:30 am

## Coffee Break

Social Event

Take 15 minutes to grab yourself a beverage, use the restroom, check your email, and get ready for the next session.

10:30 am - 12:00 pm

## EDX Evaluation of CIDP and MMN (limited to 20 participants)

Session

Articulate the algorithmic approach for the diagnosis of CIDP and MMN which includes defining the clinical phenotype in the context of the clinical history, identifying the EDX findings of acquired demyelination, and using validated EDX criteria (or supportive criteria) to determine the diagnosis.

This is an "Ask the Experts" session. There will be an interactive discussion designed around audience participation. There are no handouts nor a planned presentation.

Attendance is limited to 20 people to allow for discussion in a virtual environment. The first 20 participants to enter the room will have access.

1.50 CME/CEU

Said R. Beydoun, MD

10:30 am - 12:00 pm

## Hot Topics in NM Literature - Part 1

Session

Appraise impactful, cutting-edge and emerging science in NM medicine over the past year; describe hot topics and groundbreaking work in multiple areas of NM medicine including: EDX and sonographic testing, hereditary and acquired myopathies, peripheral neuropathy evaluation and treatment, advancements in motor neuron disease and NMJ disorders; recognize the clinical value of these studies; identify opportunities to integrate this new knowledge into the evaluation and treatment of NM patients in clinical practice.

This is a Self-Assessment (SA) CME session. To receive the SA CME credit, a post-test must be completed with a 70% passing rate.

*Introduction*

Ruple S. Laughlin, MD

*Hot Topics in Clinical Neurophysiology (EMG and US)*

Ruple S. Laughlin, MD

*The Latest in Neuromuscular Junction Disorders*

Jeffrey T. Guptill, MD

*Breakthroughs in Motor Neuron Disease*

Andrea J. Swenson, MD

1.50 CME/CEU

10:30 am -  
12:00 pm**The Combined Use of EDX & US for Upper Limb Focal Neuropathies - Part 1**

Session

After attending this session attendees will be able to utilize and integrate both US and EDX to assess upper limb focal neuropathies.

Q & A for Part 1 will take place at the end of Part 2 with faculty from both sessions.

*Introduction*

Jeffrey A. Strakowski, MD

*Scanning Demonstration of Peripheral Nerves of the Upper Limb*

Jeffrey A. Strakowski, MD

*Electrodiagnosis for Focal Neuropathies of the Upper Limb*

Jun Kimura, MD

1.50  
CME/CEU12:00 pm -  
1:00 pm**Industry Forum**Industry  
Forum

Expanding Possibilities in the Treatment of Spinal Muscular Atrophy

Spinal muscular atrophy (SMA) is an inherited, degenerative NM that can result in severe muscle weakness and loss of function over time. Disease severity and rate of functional decline vary, ranging from hypotonia, failure to reach motor milestones, and potentially fatal respiratory complications in infantile-onset SMA, to loss of ambulation and slow but progressive motor function decline in children and adults with later-onset disease. In this session, participants will be introduced to efficacy and safety data from an approved SMA treatment option, including case studies reflecting the real-world spectrum of patients with SMA.

Speaker: John Brandsema, MD

Sponsored By: Genentech

AANEM will conduct a drawing for a \$1,000 VISA gift card during this forum. Attendees must be present to win.

No CME/CEU

1:00 pm -  
1:30 pm**Exhibit Hall**

Social Event

Want to learn more about the products that make our industry unique? Take the opportunity to visit the virtual exhibit hall and see the latest innovations in our industry.

1:30 pm -  
3:00 pm**Radiculopathy (limited to 20 participants)**

Session

With regard to lumbosacral and cervical radiculopathies, discuss pertinent historical features; integrate a pertinent physical and EDX examination that ensures high diagnostic accuracy; utilize other diagnostic tests and treatment options to improve your care of patients.

This is an "Ask the Experts" session. There will be an interactive discussion designed around audience participation. There are no handouts nor a planned presentation.

Attendance is limited to 20 people to allow for discussion in a virtual environment. The first 20 participants to enter the room will have access.

Peter A. Grant, MD

1.50  
CME/CEU1:30 pm -  
3:00 pm**Hot Topics in NM Literature - Part 2**

Session

Appraise impactful, cutting-edge and emerging science in NM medicine over the past year; describe hot topics and groundbreaking work in multiple areas of NM medicine including: EDX and sonographic testing, hereditary and acquired myopathies, peripheral neuropathy evaluation and treatment, advancements in motor neuron disease and NMJ disorders; recognize the clinical value of these studies; identify opportunities to integrate this new knowledge into the evaluation and treatment of NM patients in clinical practice.

This is a Self-Assessment (SA) CME session. To receive the SA CME credit, a post-test must be completed with a 70% passing rate.

*Cutting Edge Myopathy –Genetics and Inflammatory*

Elie Naddaf, MD

*Recent Highlights in Peripheral Nerve Literature*

Kelly G. Gwathmey, MD

*Discussion and Q & A*1.50  
CME/CEU

1:30 pm - 3:00 pm

## The Combined Use of EDX & US for Upper Limb Focal Neuropathies - Part 2

Session

After attending this session attendees will be able to utilize and integrate both US and EDX to assess upper limb focal neuropathies.

Case Discussion and Q & A with Drs. Michael Cartwright, Jun Kimua, and Jeffrey Strakowski

1.50 CME/CEU

*Use of Ultrasound for Focal Neuropathies of the Upper Limb*  
Michael S. Cartwright, MD

1:30 pm - 3:00 pm

## NM Video Cases

Session

Articulate significant physical signs of different NM disorders; guide laboratory investigations based on accurate identification of leading findings; use EDX tests as an extension of the clinical examination; state how to longitudinally follow disease progress; and differentiate between functional and organic NM disorders.

1.50 CME/CEU

Aziz Shaibani, MD

3:00 pm - 3:15 pm

## Coffee Break

Social Event

Take 15 minutes to grab yourself a beverage, use the restroom, check your email, and get ready for the next session.

3:15 pm - 3:45 pm

## Abstract Poster Session I

Session

Authors of designated abstracts will be available to discuss their research. Visit the poster hall to review the information from this year's abstracts and meet the authors.

No CME/CEU

3:45 pm - 5:15 pm

## Entrapment Neuropathies (limited to 20 participants)

Session

Demonstrate how to use the Robinson Index for diagnosis of CTS; identify the best approaches for diagnosing ulnar neuropathy at the elbow; convey how to formulate prognostic statements in focal neuropathies.

This is an "Ask the Experts" session. There will be an interactive discussion designed around audience participation. There are no handouts nor a planned presentation.

Attendance is limited to 20 people to allow for discussion in a virtual environment. The first 20 participants to enter the room will have access.

1.50 CME/CEU

Lawrence R. Robinson, MD

3:45 pm - 5:15 pm

## Antibody Testing and NMDs

Session

Identify the clinical utility of various antibodies in diagnosing and monitoring related NMDS; Recognize possible limitations of various antibodies in the evaluation and management of NMDS; Recall how to order antibody testing judiciously in NM medicine.

*Introduction*

Yuebing Li, MD, PhD

*Antibody Testing in Neuropathy and Myopathy*

Georgios Manousakis, MD

*Antibody Testing in NM Junction Disorders*

Michael K. Hehir, MD

*Paraneoplastic Antibody Testing in NM Medicine*

Yuebing Li, MD, PhD

*Discussion and Q & A*

1.50 CME/CEU

**3:45 pm - 5:15 pm**  
Session  
**ROUNDTABLE: Case Discussions with Bashar Katirji, MD (limited to 8 participants)**

Confer with an expert in a smaller one-on-one setting to improve your performance and interpretation of clinical studies and add clinical input. This session will improve your use of quality EDX studies in the diagnosis and treatment of patients.

Attendance is limited to 8 people to allow for discussion in a virtual environment. The first 8 participants to enter the room will have access.

**1.50**  
CME/CEU  
*Case Discussions*  
Bashar Katirji, MD

**3:45 pm - 5:15 pm**  
Session  
**ROUNDTABLE: Case Discussion with Said Beydoun, MD (limited to 8 participants)**

Confer with an expert in a smaller one-on-one setting to improve your performance and interpretation of clinical studies and add clinical input. This session will improve your use of quality EDX studies in the diagnosis and treatment of patients.

Attendance is limited to 8 people to allow for discussion in a virtual environment. The first 8 participants to enter the room will have access.

**1.50**  
CME/CEU  
*Case Discussions*  
Said R. Beydoun, MD

**3:45 pm - 5:15 pm**  
Session  
**ROUNDTABLE: Case Discussion with David Preston, MD (limited to 8 participants)**

Confer with an expert in a smaller one-on-one setting to improve your performance and interpretation of clinical studies and add clinical input. This session will improve your use of quality EDX studies in the diagnosis and treatment of patients.

Attendance is limited to 8 people to allow for discussion in a virtual environment. The first 8 participants to enter the room will have access.

**1.50**  
CME/CEU  
*Case Discussions*  
David C. Preston, MD

**3:45 pm - 5:15 pm**  
Session  
**ROUNDTABLE: Case Discussion with Mark Ferrante, MD (limited to 8 participants)**

Confer with an expert in a smaller one-on-one setting to improve your performance and interpretation of clinical studies and add clinical input. This session will improve your use of quality EDX studies in the diagnosis and treatment of patients.

Attendance is limited to 8 people to allow for discussion in a virtual environment. The first 8 participants to enter the room will have access.

**1.50**  
CME/CEU  
*Case Discussions*  
Mark A. Ferrante, MD

**3:45 pm - 5:15 pm**  
Session  
**ROUNDTABLE: Case Discussion with Bryan Tsao, MD (limited to 8 participants)**

Confer with an expert in a smaller one-on-one setting to improve your performance and interpretation of clinical studies and add clinical input. This session will improve your use of quality EDX studies in the diagnosis and treatment of patients.

Attendance is limited to 8 people to allow for discussion in a virtual environment. The first 8 participants to enter the room will have access.

**1.50**  
CME/CEU  
*Case Discussions*  
Bryan E. Tsao, MD

**3:45 pm - 5:15 pm**  
Session  
**ROUNDTABLE: Case Discussion with Erik Ensrud, MD (limited to 8 participants)**

Confer with an expert in a smaller one-on-one setting to improve your performance and interpretation of clinical studies and add clinical input. This session will improve your use of quality EDX studies in the diagnosis and treatment of patients.

Attendance is limited to 8 people to allow for discussion in a virtual environment. The first 8 participants to enter the room will have access.

**1.50**  
CME/CEU  
*Case Discussions*  
Erik R. Ensrud, MD

3:45 pm - 5:15 pm

## Neuropathy Updates From the PNS

Session

More accurately diagnose CIDP, identify the latest developments in CMT, and diagnose and treat diabetic neuropathy.

This activity has been planned and implemented in accordance with the accreditation requirements and policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint providership of AANEM and the Peripheral Nerve Society. The AANEM is accredited by the ACCME to provide continuing medical education for physicians.

*Introduction*

David R. Cornblath, MD

*Not CIDP: A Case Series*

David R. Cornblath, MD

*Update on CMT*

Michael E. Shy, MD

*Diabetic Neuropathy*

Brian Callaghan, MD

*Discussion and Q & A*

1.50  
CME/CEU

3:45 pm - 5:15 pm

## Inflammatory Myopathies: From A to Z

Session

Recognize the clinical features and articulate the current classification of idiopathic inflammatory myopathies; apply the findings of serological studies, muscle biopsy, and imaging in the diagnosis of inflammatory myopathy; identify and employ immunosuppressive therapies in patients diagnosed with inflammatory myopathies.

*Case Discussions*

Justin Y. Kwan, MD

*Case Discussions*

Suur Biliciler, MD

*Case Discussions*

Namita Goyal, MD

*Case Discussions*

Tahseen Mozaffar, MBBS

*Discussion and Q & A*

1.50  
CME/CEU

5:15 pm - 5:30 pm

## Coffee Break

Social Event

Take 15 minutes to grab yourself a beverage, use the restroom, check your email, and get ready for the next session.

5:30 pm - 6:15 pm

## Plenary 1B: Emergent Therapies in NM Diseases

Session

Olney Lecture

*Art, Science and Engineering of Outcome Measures for Neuromuscular Disease*

John W. Day, MD, PhD

0.75  
CME/CEU

6:15 pm - 6:45 pm

## Networking

Social Event

Take this time to catch up with friends and colleagues face-to-face through video chatting.



The No. 1 place for your PMR and NM/EDX job search!

Explore the career center today at [www.healthcareers.com/aanem](http://www.healthcareers.com/aanem)



8:30 am -  
9:15 am**Plenary 2A: Emergent Therapies in NM Diseases**

Session

*The Success and Challenges of Gene Targeted Therapeutics in SMA*

Charlotte J. Sumner, MD

**0.75**  
CME/CEU9:15 am -  
10:15 am**Industry Forum**Industry  
Forum

IN TOUCH WITH PATIENT NEEDS: A Treatment Option for the Polyneuropathy of Hereditary ATTR Amyloidosis

Are your patients with hereditary ATTR amyloidosis also suffering from polyneuropathy? Our expert speakers will discuss the importance of recognizing the disease early and how a treatment option for the polyneuropathy of hereditary ATTR amyloidosis affects neuropathy progression and patient quality of life. We look forward to your participation!

Speakers: Dr. Said Beydoun University of Southern California  
Dr. Andrew Darlington Piedmont Atlanta Hospital  
Jean, Patient

Sponsored By: Akcea Therapeutics

AANEM will conduct a drawing for a \$1,000 VISA gift card during this forum. Attendees must be present to win.

No CME/CEU

10:15 am -  
10:30 am**Coffee Break**

Social Event

Take 15 minutes to grab yourself a beverage, use the restroom, check your email, and get ready for the next session.

10:30 am -  
12:00 pm**How to Incorporate Genetic Testing (limited to 20 participants)**

Session

Use an algorithmic approach to ordering genetic tests for patients with suspected hereditary NMDs.

This is an “Ask the Experts” session. There will be an interactive discussion designed around audience participation. There are no handouts nor a planned presentation.

Attendance is limited to 20 people to allow for discussion in a virtual environment. The first 20 participants to enter the room will have access.

Anthony A. Amato, MD

**1.50**  
CME/CEU10:30 am -  
12:00 pm**Axonal Peripheral Neuropathy (Toxic and Metabolic)**

Session

Evaluate the patient suspected of having neuropathy and interpret NCSs as well as other neurophysiologic tests; describe the spectrum of disease seen in neuropathies associated with vitamin deficiencies; summarize the range of neuropathies associated with metal intoxication and how to approach these patients clinically.

*Introduction*

Benn E. Smith, MD

*Pearls on Seeing Patients Referred for Peripheral Neuropathy*

Benn E. Smith, MD

*Vitamin Deficiency and Excess Causes Neuropathy: What is the Evidence?*

Richard A. Lewis, MD

*Peripheral Neuropathies from Heavy Metals*

Mark B. Bromberg, MD, PhD

*Discussion and Q & A***1.50**  
CME/CEU10:30 am -  
12:00 pm**EDX NM Challenging Cases - Part 1**

Session

Apply and refine the process of diagnostic formulation in NM medicine and clinical EMG and improve patient care.

This is a Self-Assessment (SA) CME session. To receive the SA CME credit, a post-test must be completed with a 70% passing rate.

Bashar Katirji, MD

**1.50**  
CME/CEU

1:00 pm - 1:30 pm

## Exhibit hall

Social Event

Want to learn more about the products that make our industry unique? Take the opportunity to visit the virtual exhibit hall and see the latest innovations in our industry.

1:30 pm - 3:00 pm

## EDX NM Challenging Cases - Part 2

Session

Apply and refine the process of diagnostic formulation in NM medicine and clinical EMG and improve patient care. This session relies on attendees to provide challenging cases.

This is a Self-Assessment (SA) CME session. To receive the SA CME credit, a post-test must be completed with a 70% passing rate.

1.50 CME/CEU

Bashar Katirji, MD

1:30 pm - 3:00 pm

## Recognizing and Treating Amyloidosis and Amyloid Polyneuropathy

Session

When to consider amyloidosis in differential diagnosis; recognize red flag symptoms of amyloidosis; expand the differential diagnosis in CTS; distinguish difference between the types of amyloidosis - hereditary, light chain, wld type and secondary; utilize an algorithm for how to make a diagnosis of amyloidosis; apply the various available therapies for hereditary amyloidosis.

*The Many Faces of Amyloidosis*  
Sami L. Khella, MD

*Amyloidosis 2020: Cardiac Manifestations and Diagnosis*  
Brian Drachman, MD

*Peripheral Neuropathy with Primary Systemic Amyloidosis*  
Michelle L. Mauermann, MD

*Transthyretin Amyloid Neuropathy Treatment: An Embarrassment of Riches*  
Michael J. Polydefkis, MD

1.50 CME/CEU

*Discussion and Q & A*

1:30 pm - 3:00 pm

## MSK US for MSK Conditions Encountered During a NM Evaluation

Session

Identify common MSK problems that can confound symptoms and NM evaluation with the use of high frequency US. This will be an interactive session that will include Power Point slides, live discussion and live ultrasound demonstrations. The purpose will be to discuss MSK dilemmas facing NM specialists, and techniques for identifying confounding concomitant musculoskeletal comorbidities.

Jeffrey A. Strakowski, MD

Craig M. Zaidman, MD

1.50 CME/CEU

*Discussion and Q & A*

3:00 pm - 3:15 pm

## Coffee Break

Social Event

Take 15 minutes to grab yourself a beverage, use the restroom, check your email, and get ready for the next session.

3:15 pm - 3:45 pm

## Abstract Poster Session II

Session

Authors of designated abstracts will be available to discuss their research. Visit the poster hall to review the information from this year's abstracts and meet the authors.

No CME/CEU

3:45 pm -  
5:15 pm**Small Fiber Neuropathy (limited to 20 participants)**

Session

For small fiber neuropathy, identify symptoms and signs; explain the utilities of individual diagnostic tests and order appropriate diagnostic tests; perform individualized thorough small fiber neuropathy etiology evaluation; identify treatment based on underlying causes and symptoms; discuss the prognosis with patients.

This is an “Ask the Experts” session. There will be an interactive discussion designed around audience participation. There are no handouts nor a planned presentation.

Attendance is limited to 20 people to allow for discussion in a virtual environment. The first 20 participants to enter the room will have access.

1.50  
CME/CEU

Lan Zhou, MD, PhD

3:45 pm -  
5:15 pm**Single Fiber EMG**

Session

Compare the use of SFEMG and concentric needle electrodes (CNE) to measure jitter; recognize signals that should/should not be used to measure jitter with CNE. In patients with suspected NMJ disorders, interpret jitter measurements; convey the utility and sensitivity of jitter studies; recognize when abnormal jitter does not represent NMJ disease.

*Introduction*

Donald B. Sanders, MD

*Jitter - What is it, and How is it Measured?: Voluntary vs Stimulation Activation; Measuring Jitter with Concentric Needle Electrodes*

Donald B. Sanders, MD

*Muscle Selection; Correlation with Predictive Value for Severity; Pitfalls & Cautions in Interpreting Jitter Studies*

Janice M. Massey, MD

*Pitfalls and Errors in Measuring Jitter*

Donald B. Sanders, MD

*Discussion and Q & A*1.50  
CME/CEU3:45 pm -  
5:15 pm**Assistive Technology for Gait**

Session

Identify common gait deviations in NMDs and appropriate orthotic prescriptions; assess innovative technologies available and in development, such as robotics and exoskeletons; recognize novel control of rehabilitation robotics using EMG and EEG; recognize opportunities for research in assistive technology.

This is a Special Interest Group Session. Anyone who has interest in this topic is welcome to attend.

*Introduction*

William Filer, MD

*Managing Gait in Neuromuscular Diseases*

William Filer, MD

*Human-Machine Interfaces for Assisting Human Locomotion*

Daniel Ferris, PhD

*Discussion and Q & A*1.50  
CME/CEU3:45 pm -  
5:15 pm**EMG Reports**

Session

Convey important information about radiculopathies in EMG reports to referring physicians; identify information necessary for inclusion in an EMG report; implement appropriate degree of clinical and EDX interpretation into a meaningful EMG report.

This is a Special Interest Group Session. Anyone who has interest in this topic is welcome to attend.

*Introduction*

Devon I. Rubin, MD

*Do Referring Physicians Understand our EMG Reports?*

Elizabeth A. Mauricio, MD

*EMG Report Formulation*

Kerry H. Levin, MD

*Is Including Clinical, in Addition to Electrophysiologic, Interpretation Helpful or Harmful to the Referring Physician?*

Devon I. Rubin, MD

*Discussion and Q & A*1.50  
CME/CEU

3:45 pm -  
5:15 pm

## Updates in CIDP

Session

Recognize CIDP misdiagnosis pitfalls, identify when CIDP mimics should be explored, and be better able to follow the clinical course and treatment response of CIDP patients by using readily available CIDP outcome measures during routine clinical care.

*Introduction*

Jeffrey A. Allen, MD

*Recognizing CIDP Diagnostic Pitfalls*

Jeffrey A. Allen, MD

*Is the treatment working? CIDP Outcome Measure Metrics for Use in Daily Practice*

Karissa Gable, MD

*Mimics of CIDP*

Chafic Karam, MD

*Discussion and Q & A*

1.50  
CME/CEU

5:15 pm -  
5:30 pm

## Coffee Break

Social Event

Take 15 minutes to grab yourself a beverage, use the restroom, check your email, and get ready for the next session.

5:30 pm -  
6:15 pm

## Plenary 2B: Emergent Therapies in NM Diseases

Session

*Novel Precision Therapeutics and Exercise Mimetics in Dystrophinopathy*

Craig M. McDonald, MD

0.75  
CME/CEU

6:15 pm -  
7:45 pm

## Fireside Chat With Spike and Wave

Social Event

Join Spike and Wave for the first ever virtual meeting of these two iconic members. Enjoy a good laugh while learning too. This is meant to be a fun and interactive session so grab your best whisky, IPA, or other beverage, and have a great time. Check your seriousness at the virtual door.

Sponsored by Natus

William J. Litchy, MD

Lawrence R. Robinson, MD

# Training Program Partnership

Join the TPP for just \$253!

Free AANEM membership for residents/fellows

Exclusive educational materials

Deep discounts on the AANEM Annual Meeting

Access to all the services of AANEM



8:30 am -  
9:15 am**Plenary 3A: Emergent Therapies in NM Diseases**

Session

*Antibodies in Inflammatory Neuropathies: What to Test, How to Test, Why to Test*

Luis Querol, MD, PhD

**0.75**  
CME/CEU9:15 am -  
10:15 am**Industry Forum**Industry  
Forum

Healthcare professionals and their patients: How can we better manage uncontrolled generalized myasthenia gravis together?

UCB-Supported Virtual Symposium at the American Association of Neuromuscular & Electrodagnostic Medicine congress 2020 (AANEM)

Uncontrolled generalized myasthenia gravis (gMG) means living with unpredictability. In many patients with gMG, the disease course remains uncontrolled and unpredictable. Fluctuating symptoms and the risk of exacerbations can disrupt the daily lives of patients. Effective communication between healthcare professionals (HCPs) and patients is key in evaluating the impact of gMG on patients' day-to-day lives. We invite you to join us for this virtual symposium where we will hear from our esteemed faculty and an individual living with gMG to discover the importance of holistic patient assessment and enhanced HCP-patient communication in ensuring that the day-to-day impact of gMG is fully appreciated and considered as part of disease management strategies.

Speakers: James F. Howard, Jr. MD  
Nicholas Silvestri, MD  
Kelly Davio, Patient

Sponsored By: UCB

AANEM will conduct a drawing for a \$1,000 VISA gift card during this forum. Attendees must be present to win.

No CME/CEU

10:15 am -  
10:30 am**Coffee Break**

Social Event

Take 15 minutes to grab yourself a beverage, use the restroom, check your email, and get ready for the next session.

10:30 am -  
12:00 pm**Peripheral Neuropathy (limited to 20 participants)**

Session

Articulate a differential diagnosis of peripheral neuropathy; arrange neuropathies into motor, sensory, and mixed types as well as into demyelinating and axon loss types; assess EDX approach to evaluating patients with diffuse polyneuropathies; implement treatment options from immunosuppression to neuropathic pain management.

This is an "Ask the Experts" session. There will be an interactive discussion designed around audience participation. There are no handouts nor a planned presentation.

Attendance is limited to 20 people to allow for discussion in a virtual environment. The first 20 participants to enter the room will have access.

**1.50**  
CME/CEU

Peter D. Donofrio, MD

10:30 am -  
12:00 pm**Cutting Edge US**

Session

Illustrate the role for shear wave elastography in NM US, along with other technological advances that may improve patient care; demonstrate the role of muscle US in diagnosing ALS and monitoring its progression; and critically evaluate how NM US can improve the diagnosis and care of autoimmune neuropathies.

*Introduction*

Lisa D. Hobson-Webb, MD

*Shear Wave Elastography in NM Disease*

Lisa D. Hobson-Webb, MD

*US in the Evaluation of Autoimmune Neuropathies*

Sarada Sakamuri, MD

*Ultrasound for the Evaluation of ALS*

Michael S. Cartwright, MD

**1.50**  
CME/CEU

10:30 am - 12:00 pm

**MUP Recruitment Analysis Made Simple**

Session

Recognize MUP firing rates with a high degree of accuracy; formulate recruitment ratios using auditory recognition skills; and assess whether recruitment is normal or abnormal in a variety of examples.

1.50 CME/CEU

Devon I. Rubin, MD

12:00 pm - 1:00 pm

**Industry Forum**

Industry Forum

ONPATTRO® (patisiran) in Practice

The faculty in this program will share their experiences diagnosing and treating adult patients with the polyneuropathy of hereditary transthyretin-mediated (hATTR) amyloidosis. Faculty will review hATTR amyloidosis and the red-flag symptoms of the disease, discuss challenges associated with diagnosing the disease, present two patient case studies, and share the clinical profile of ONPATTRO® (patisiran). For additional information about ONPATTRO, please see the Important Safety Information at [www.onpattrohcp.com/important-safety-information](http://www.onpattrohcp.com/important-safety-information) and the full Prescribing Information at <https://alnylam.com/onpattro-us-prescribing-information>.

Speakers: Francy Y. Shu, MD, UCLA Medical Center

John David Eatman, MD, North Kansas City Hospital

Sponsored By: Alnylam Pharmaceuticals

AANEM will conduct a drawing for a \$1,000 VISA gift card during this forum. Attendees must be present to win.

No CME/CEU

1:00 pm - 1:30 pm

**Exhibit Hall**

Social Event

Want to learn more about the products that make our industry unique? Take the opportunity to visit the virtual exhibit hall and see the latest innovations in our industry.

1:30 pm - 3:00 pm

**Chemodenervation (limited to 20 participants)**

Session

Articulate the principles and practical aspects of chemodenervation with botulinum toxins in focal dystonia and spasticity; recognize the role of EMG guidance in identification of dystonic EMG patterns and choice of candidate muscles for injection; identify dosing differences/relationships among available toxins.

This is an “Ask the Experts” session. There will be an interactive discussion designed around audience participation. There are no handouts nor a planned presentation.

Attendance is limited to 20 people to allow for discussion in a virtual environment. The first 20 participants to enter the room will have access.

1.50 CME/CEU

Janice M. Massey, MD

1:30 pm - 3:00 pm

**NM Pathology**

Session

Identify the usefulness of nerve and muscle biopsies in era of genetics testing; integrate the findings with the clinical evaluation; and formulate the treatment based on the results in complex/unusual NM cases.

This is a Special Interest Group Session. Anyone who has interest in this topic is welcome to attend.

*Case Discussions*

Suur Biliciler, MD

*Case Discussions*

Justin Y. Kwan, MD

*Case Discussions*

Michelle L. Mauermann, MD

1.50 CME/CEU

*Discussion and Q & A*

1:30 pm -  
3:00 pm**Intraoperative Monitoring: Advanced Techniques**

Session

At the end of the session, attendees will be able to recognize the benefits and limitations of using transcranial motor evoked potentials for nerve root monitoring. Attendees will be able to identify the preferred modalities and the monitoring strategy for brachial plexus repair surgeries.

This is a Special Interest Group Session. Anyone who has interest in this topic is welcome to attend.

*Introduction*

Greg A. Schaublin, MD

*Transcranial Motor Evoked Potentials for Root-Level Monitoring*

Greg A. Schaublin, MD

*Intraoperative Monitoring of Brachial Plexus and Peripheral Surgery*

Vita G. Kesner, MD, PhD

*Discussion and Q & A*1.50  
CME/CEU1:30 pm -  
3:00 pm**Challenging Imaging Cases**

Session

Identify challenging imaging findings encountered on NM US including: anomalies of nerve, muscle and bone; neoplastic lesions of nerve and nearby structures; and unusual pathologies of nerve and muscle.

*Introduction*

David C. Preston, MD

*Challenging Imaging Cases*

David C. Preston, MD

*Challenging Imaging Cases*

Monika Krzesniak-Swinarska, MD

*Challenging Imaging Cases*

Christopher Geiger, DO

*Discussion and Q & A*1.50  
CME/CEU3:00 pm -  
3:15 pm**Coffee Break**

Social Event

Take 15 minutes to grab yourself a beverage, use the restroom, check your email, and get ready for the next session.

3:15 pm -  
3:45 pm**Abstract Poster Session III**

Session

Authors of designated abstracts will be available to discuss their research. Visit the poster hall to review the information from this year's abstracts and meet the authors.

No CME/CEU

3:45 pm -  
5:15 pm**Brachial Plexopathies (limited to 20 participants)**

Session

Articulate brachial plexus anatomy; illustrate the role of the sensory and motor NCSs to localize and characterize the lesions (pathophysiology, severity, prognosis); use needle EMG to add to the NCS findings, especially its temporal features (slowly progressive, rapidly progressive, acute, subacute, chronic). Cases will be used to demonstrate how to improve patient care.

This is an "Ask the Experts" session. There will be an interactive discussion designed around audience participation. There are no handouts nor a planned presentation.

Attendance is limited to 20 people to allow for discussion in a virtual environment. The first 20 participants to enter the room will have access.

1.50  
CME/CEU

Mark A. Ferrante, MD

**3:45 pm - 5:15 pm**

**Peripheral Anatomy: From Root to Muscle**

Session

List upper and lower limb anatomy beginning at the nerve root level and continuing down to the muscle and recognize the presentation of common abnormalities using NCSs.

This is a Self-Assessment (SA) CME session.

This is a Self-Assessment (SA) CNCT Checkpoint session.

To receive the SA CME or CNCT Checkpoint credit, a post-test must be completed with a 70% passing rate.

*Introduction*  
Loretta M. VanEvery, MD

*Nerve Root and Plexus*  
Adam D. Comer, MD

*Peripheral Nerve*  
Jerry Morris, CNCT, MS, R.NCS.T., FASET

*NMJ and Muscle*  
Tristin Allen, MD

*Discussion and Q & A*

**1.50 CME/CEU**

**3:45 pm - 5:15 pm**

**NMD in Pregnancy**

Session

Describe the NM conditions that occur more frequently in pregnancy; review the presentation and management of specific NM disorders during pregnancy, labor/delivery and postpartum; describe important treatment considerations for women with NM disorders who are planning a future pregnancy; illustrate the advantages of working with interdisciplinary teams in the management of care for these patients.

*NMD in Pregnancy*  
Kara Stavros, MD

*Management of hereditary nerve and muscle disorders in pregnancy*  
Kara Stavros, MD

*Intersection of MG and Pregnancy*  
Divya Singhal, MD

*Pregnancy-related neuropathies, plexopathies, and radiculopathies*  
Nasheed I. Jamal, MD

*Discussion and Q & A*

**1.50 CME/CEU**

**3:45 pm - 5:15 pm**

**You Make the Call: An Interactive Approach to EMG Waveform Recognition Skills - BASIC**

Session

Identify the firing patterns of different types of EMG waveforms; identify the characteristics of a variety of normal and abnormal spontaneous waveforms; recognize normal and abnormal patterns of recruitment of MUAPs; and recognize and understand the significance of the changes in morphology of MUAPs in diseases. Includes audience participation and videos of EMG waveforms.

*You Make the Call: An Interactive Approach to the Skills of EMG Waveform Recognition: Advanced*  
Devon I. Rubin, MD

**1.50 CME/CEU**

**5:15 pm - 5:30 pm**

**Coffee Break**

Social Event

Take 15 minutes to grab yourself a beverage, use the restroom, check your email, and get ready for the next session.

**5:30 pm - 6:15 pm**

**Plenary 3B: Emergent Therapies in NM Diseases**

Session

Reiner Lecture

*Therapeutic Landscape and Novel Therapies for Myasthenia Gravis*  
Gil I. Wolfe, MD

**0.75 CME/CEU**

**6:15 pm - 6:45 pm**

**Networking**

Social Event

Take this time to catch up with friends and colleagues face-to-face through video chatting.

**8:30 am - 9:15 am Plenary 4A: Emergent Therapies in NM Diseases**

Session

Lambert Lecture

**0.75  
CME/CEU***ALS Therapeutics: New Treatments and New Approaches*  
Merit E. Cudkowicz, MD, MSc**9:15 am - 10:15 am****Industry Forum**Industry  
ForumAntisense Oligonucleotide Targeted Therapies in  
SMA and ALS

This industry forum aims to provide an overview of the antisense oligonucleotide (ASO) technology as well as their clinical applicability in the context of SMA and ALS. Dr. Krainer will discuss the science underlying ASO technology, and Dr. Day will share an overview of clinical data collected on nusinersen for SMA and investigational tofersen for SOD1-ALS.

Speakers:

Adrian Krainer, PhD

John Day, MD, PhD

Sponsored By: Biogen

AANEM will conduct a drawing for a \$1,000 VISA gift card during this forum. Attendees must be present to win.

**No CME/CEU****10:15 am - 10:30 am****Coffee Break**

Social Event

Take 15 minutes to grab yourself a beverage, use the restroom, check your email, and get ready for the next session.

**10:30 am - 12:00 pm****Planning Your NCS Study (limited to 20 participants)**

Session

Apply a rationale strategy to select NCS based on the patient's presenting symptoms.

This is a technologist focused session. Anyone who has interest in this topic is welcome to attend

This is an "Ask the Experts" session. There will be an interactive discussion around audience participation. There are no handouts nor a planned presentation.

Attendance is limited to 20 people to allow for discussion in a virtual environment. The first 20 participants to enter the room will have access.

Arun K. Chandok, MD

Daniel B. Simmons, MD

**1.50  
CME/CEU****10:30 am - 12:00 pm****Basic EDX**

Session

Review the latest techniques for electrodiagnostically evaluating persons suspected of: i) cervical or lumbosacral radiculopathy, ii) CTS, iii) ulnar neuropathy, or iv) polyneuropathy; summarize the latest clinical guidelines; recognize AANEM normal values that provide more precise classification regarding whether a study is normal or abnormal. These new norms take into account, age, gender, height, and body mass index and their influence on NCS parameters.

This is a Self-Assessment (SA) CME session. To receive the SA CME credit, a post-test must be completed with a 70% passing rate.

*Electrodiagnosis of Carpal Tunnel Syndrome and Ulnar Neuropathy*

Lawrence R. Robinson, MD

*Peripheral Neuropathy*

Peter D. Donofrio, MD

**1.50  
CME/CEU***Evaluation of the patient with suspected radiculopathy*

Timothy R. Dillingham, MD, MS

**10:30 am - 12:00 pm** **The Bermuda Triangle of NM Disease**

Session  
Clinical experts in NM medicine, sleep medicine, pulmonology and cardiology will provide information on the assessment and evaluation of respiration, sleep related breathing and cardiac function and management of the adult NM patient. The session will be supplemented by a separate hands on session (Thursday, 8:00 -9:30 am) that will allow attendees to become familiar with the devices used for the evaluation and management of patients with NM disorders and related cardiopulmonary dysfunction.

*Introduction*

Ericka P. Greene , MD

*Pulmonology 101 for the Adult NM Neurologist*

Michelle Cao, MD

*The Bermuda Triangle of NM Disease*

Aparajitha K. Verma, MD

*Navigating Respiratory and Cardiac Issues From the Perspective of NM Specialist*

Sheetal Shroff, MD

*Cardiac Considerations in NM Disease*

Nilesh Mathuria

*Discussion and Q & A*

**1.50**  
CME/CEU

**12:00 pm - 1:30 pm** **Coffee Break**

Social Event  
Take a break to grab yourself a beverage, use the restroom, check your email, and get ready for the next session.

**12:45 pm - 1:00 pm** **Annual Business Meeting**

Session  
Election of Officers and Recognition of Outgoing Board Members

This session is limited to members that have voting rights.

No CME/CEU

**1:30 pm - 3:00 pm** **Cranial Nerve Testing (limited to 20 participants)**

Session  
Identify basic anatomy and physiology which underlie testing of trigeminal, facial, spinal accessory and hypoglossal nerves; recognize single and repetitive nerve stimulation techniques used to study facial and spinal accessory nerves to evaluate weakness; articulate principles and pitfalls of blink reflex studies to assess trigeminal and facial nerves; identify characteristics of EMG abnormalities in patients with facial weakness; apply skills of EMG for rational evaluation of cranial nerve function and dysfunction.

This is an “Ask the Experts” session. There will be an interactive discussion designed around audience participation. There are no handouts nor a planned presentation.

Attendance is limited to 20 people to allow for discussion in a virtual environment. The first 20 participants to enter the room will have access.

**1.50**  
CME/CEU

Jun Kimura, MD

**1:30 pm - 3:00 pm** **Upper Extremity NCS: Lesion Localization and Severity Assessment**

Session  
Review the PNS anatomy of the upper extremity, including root, plexus, and nerve innervation; recognize the use of sensory NCS for the initial localization of axon loss processes; the role of motor NCS for localization of focal demyelination and for lesion severity assessment; and role of needle EMG to confirm the NCS findings and to delineate the temporal features (acute, subacute, chronic, rapidly progressive, slowly progressive).

This is a Self-Assessment (SA) CNCT Checkpoint session. To receive the SA CNCT Checkpoint credit, a post-test must be completed with a 70% passing rate.

**1.50**  
CME/CEU

*How to Localize and Characterize Lesions*  
Mark A. Ferrante, MD

1:30 pm -  
3:00 pm

Session

**NM Complications of Cancer Treatment with Checkpoint Inhibitors and Chemotherapy**

Articulate the common presentations of CIPN; recognize the diagnostic conundrums that arise in the care of cancer patients with new neuropathies; apply CIPN guidelines directly to patient care; recognize when a NM complication of ICPI therapy should be on the differential diagnosis; conduct an appropriate work up; summarize therapeutic options; and recognize when and how to access specific expertise for challenging cases of ICPI complications.

*Introduction*

Noah A. Kolb, MD

*CIPN: A Practical Guide to Diagnosis, Treatment and Diagnostic Conundrums*

Noah A. Kolb, MD

*NM Complications of Checkpoint Inhibitors*

Kelsey J. Barrell, MD

*Treatment of NM Complications of Immune Checkpoint Inhibitor Therapy*

Amanda C. Guidon, MD

*Discussion and Q & A*1.50  
CME/CEU1:30 pm -  
3:00 pm

Session

**You Make the Call: An Interactive Approach to EMG Waveform Recognition Skills - ADVANCED**

Identify the characteristics of a variety of uncommon abnormal spontaneous waveforms; recognize normal and abnormal patterns of recruitment of MUAPs; and recognize and understand the significance of subtle or complex changes in morphology of MUAPs in diseases. The workshop includes audience participation and video examples of EMG waveforms.

*You Make the Call: An Interactive Approach to the Skills of EMG Waveform Recognition: Advanced*

Devon I. Rubin, MD

1.50  
CME/CEU3:00 pm -  
3:15 pm

Social Event

**Coffee Break**

Take 15 minutes to grab yourself a beverage, use the restroom, check your email, and get ready for the next session.

3:15 pm -  
3:45 pm

Session

**Abstract Poster Session IV**

Authors of designated abstracts will be available to discuss their research. Visit the poster hall to review the information from this year's abstracts and meet the authors.

No CME/CEU

3:45 pm -  
5:15 pm

Session

**EDX Evaluation of the Foot (limited to 20 participants)**

In an EDX evaluation of the foot, design the optimal EDX evaluation; state the role of needle EMG; generate a differential diagnosis for neuropathic foot pain, including entrapment neuropathies in the foot/ankle.

This is an "Ask the Experts" session. There will be an interactive discussion designed around audience participation. There are no handouts nor a planned presentation.

Attendance is limited to 20 people to allow for discussion in a virtual environment. The first 20 participants to enter the room will have access.

1.50  
CME/CEU

David R. Del Toro, MD

3:45 pm -  
5:15 pm

Session

**Troubleshooting: When Something Doesn't Make Sense (limited to 20 participants)**

Identify nerve conduction abnormalities due to anomalous innervations, artifacts, and technical factors.

This is a technologist focused session. Anyone who has interest in this topic is welcome to attend.

This is an "Ask the Experts" session. There will be an interactive discussion designed around audience participation. There are no handouts nor a planned presentation.

Attendance is limited to 20 people to allow for discussion in a virtual environment. The first 20 participants to enter the room will have access.

1.50  
CME/CEU

Deborah Y. Bradshaw, MD

Arun K. Chandok, MD

3:45 pm - 5:15 pm

## Tip of the Iceberg: When NCS Suggests Other Pathology

Session

Outline a systematic and comprehensive approach to the assessment of patients with unexpected findings. This interactive session will center around real-life cases of patients who had previously unrecognized pathologies that significantly altered their treatment.

This is a Self-Assessment (SA) CNCT Checkpoint session. To receive the SA CNCT Checkpoint credit, a post-test must be completed with a 70% passing rate.

Candy Dolan, CNCT, R.NCS.T, R.EEGT.

Ligia V. Onofrei, MD

*Discussion and Q & A*

1.50 CME/CEU

5:15 pm - 5:30 pm

## Coffee Break

Social Event

Take 15 minutes to grab yourself a beverage, use the restroom, check your email, and get ready for the next session.

5:30 pm - 6:15 pm

## Plenary 4B: Emergent Therapies in NM Diseases

Session

Surinderjit Singh Young Lectureship Award

*Patient Centered Outcomes and Treatment Goals in NM Disorders*

Carolina Barnett-Tapia, MD

0.75 CME/CEU



# ABEM Initial Certification Exam

Registration dates:  
October 1 - November 30, 2020

Exam dates:  
March 10 - 20, 2021

Exam administered at Pearson Vue testing centers worldwide.

Please join us for an industry forum on

## Clinically Meaningful Assessments for Neuromuscular Disorders- Focus on Pompe Disease

WEDNESDAY, OCTOBER 7, 2020  
9:15 AM - 10:15 AM (CT)



**Matthew Wicklund, MD**  
Professor of Neurology  
University of Colorado



### OBJECTIVES:

- (i) Educate healthcare providers regarding how to recognize the clinical features of Pompe Disease and monitor the disease with clinically relevant parameters
- (ii) Highlight the importance of a multidisciplinary approach to managing Pompe Disease

This activity is not part of the official scientific program of the AANEM Annual Meeting

**gamunex<sup>®</sup>-c**



immune globulin injection (human), 10%  
caprylate/chromatography purified

FOR THE TREATMENT OF CHRONIC INFLAMMATORY  
DEMYELINATING POLYNEUROPATHY (CIDP)

# Uncover the Difference



#1

PRESCRIBED

IG FOR  
CIDP<sup>1</sup>



A PROVEN FORMULATION FOR A WIDE  
RANGE OF PATIENT TYPES

Sugar-free, low sodium, and osmolality  
close to physiologic<sup>2,3</sup>

The first proven dosing regimen with  
the ICE study<sup>4</sup>

Proven effective at 24 and 48 weeks<sup>4</sup>

IV administration by a healthcare professional in  
the home, hospital, or infusion clinic

Gamunex Connexions for patient support

ICE, 10% caprylate-chromatography purified immune globulin  
intravenous (IGIV-C) CIDP efficacy.

**References:** 1. Data on file, Grifols. 2. Gelfand EW. Differences between IGIV products: impact on clinical outcome. *Int Immunopharmacol.* 2006;6(4):592-599. 3. GAMUNEX<sup>®</sup>-C (immune globulin injection [human], 10% caprylate/chromatography purified) Prescribing Information. Grifols. 4. Hughes RAC, Donofrio P, Brill V, et al; on behalf of the ICE Study Group. Intravenous immune globulin (10% caprylate-chromatography purified) for the treatment of chronic inflammatory demyelinating polyradiculoneuropathy (ICE study): a randomised placebo-controlled trial. *Lancet Neurol.* 2008;7(2):136-144.

**GRIFOLS**



# Important Safety Information

GAMUNEX®-C (immune globulin injection [human], 10% caprylate/chromatography purified) is indicated for the treatment of primary humoral immunodeficiency disease (PIDD) in patients 2 years of age and older, idiopathic thrombocytopenic purpura (ITP) in adults and children, and chronic inflammatory demyelinating polyneuropathy (CIDP) in adults.

**Thrombosis may occur with immune globulin products, including GAMUNEX-C. Risk factors may include: advanced age, prolonged immobilization, hypercoagulable conditions, history of venous or arterial thrombosis, use of estrogens, indwelling central vascular catheters, hyperviscosity, and cardiovascular risk factors. Thrombosis may occur in the absence of known risk factors. For patients at risk of thrombosis, administer GAMUNEX-C at the minimum dose and infusion rate practicable. Ensure adequate hydration in patients before administration. Monitor for signs and symptoms of thrombosis and assess blood viscosity in patients at risk for hyperviscosity.**

**Renal dysfunction, acute renal failure, osmotic nephrosis, and death may occur with immune globulin intravenous (IVIG) products in predisposed patients. Patients predisposed to renal dysfunction include those with any degree of preexisting renal insufficiency, diabetes mellitus, age greater than 65, volume depletion, sepsis, paraproteinemia, or patients receiving known nephrotoxic drugs. Renal dysfunction and acute renal failure occur more commonly in patients receiving IVIG products containing sucrose. GAMUNEX-C does not contain sucrose. For patients at risk of renal dysfunction or failure, administer GAMUNEX-C at the minimum concentration available and the minimum infusion rate practicable.**

GAMUNEX-C is contraindicated in patients who have had an anaphylactic or severe systemic reaction to the administration of human immune globulin. It is contraindicated in IgA-deficient patients with antibodies against IgA and history of hypersensitivity.

Severe hypersensitivity reactions may occur with IVIG products, including GAMUNEX-C. In case of hypersensitivity, discontinue GAMUNEX-C infusion immediately and institute appropriate treatment.

Monitor renal function, including blood urea nitrogen (BUN), serum creatinine, and urine output in patients at risk of developing acute renal failure.

Hyperproteinemia, increased serum viscosity, and hyponatremia may occur in patients receiving IVIG treatment, including GAMUNEX-C.

There have been reports of aseptic meningitis, hemolytic anemia, and noncardiogenic pulmonary edema (transfusion-related acute lung injury [TRALI]) in patients administered with IVIG, including GAMUNEX-C.

The high-dose regimen (1g/kg x 1-2 days) is not recommended for individuals with expanded fluid volumes or where fluid volume may be a concern.

Because GAMUNEX-C is made from human blood, it may carry a risk of transmitting infectious agents, eg, viruses, the variant Creutzfeldt-Jakob disease (vCJD) agent, and, theoretically, the Creutzfeldt-Jakob disease (CJD) agent.

Do not administer GAMUNEX-C subcutaneously in patients with ITP because of the risk of hematoma formation.

Periodic monitoring of renal function and urine output is particularly important in patients judged to be at increased risk of developing acute renal failure. Assess renal function, including measurement of BUN and serum creatinine, before the initial infusion of GAMUNEX-C and at appropriate intervals thereafter.

Consider baseline assessment of blood viscosity in patients at risk for hyperviscosity, including those with cryoglobulins, fasting chylomicronemia/markedly high triacylglycerols (triglycerides), or monoclonal gammopathies, because of the potentially increased risk of thrombosis.

If signs and/or symptoms of hemolysis are present after an infusion of GAMUNEX-C, perform appropriate laboratory testing for confirmation.

If TRALI is suspected, perform appropriate tests for the presence of antineutrophil antibodies and anti-HLA antibodies in both the product and patient's serum.

After infusion of IgG, the transitory rise of the various passively transferred antibodies in the patient's blood may yield positive serological testing results, with the potential for misleading interpretation.

In clinical studies, the most common adverse reactions with GAMUNEX-C were headache, pyrexia, hypertension, chills, rash, nausea, arthralgia, and asthenia (in CIDP); cough, rhinitis, pharyngitis, headache, asthma, nausea, fever, diarrhea, and sinusitis with intravenous use (in PIDD) and local infusion-site reactions, fatigue, headache, upper respiratory tract infection, arthralgia, diarrhea, nausea, sinusitis, bronchitis, depression, allergic dermatitis, migraine, myalgia, viral infection, and pyrexia with subcutaneous use (in PIDD); and headache, ecchymosis, vomiting, fever, nausea, rash, abdominal pain, back pain, and dyspepsia (in ITP).

The most serious adverse reactions in clinical studies were pulmonary embolism (PE) in 1 subject with a history of PE (in CIDP), an exacerbation of autoimmune pure red cell aplasia in 1 subject (in PIDD), and myocarditis in 1 subject that occurred 50 days post-study drug infusion and was not considered drug related (in ITP).

**Please see accompanying full [Prescribing Information](#) for GAMUNEX-C.**

# 2020 AANEM Achievement Awards

The 2020 AANEM Achievement Awards will be presented during the Wednesday plenary session from about 8:45 am – 9:15 am CDT. If you miss the live session, you can watch it on the On Demand Video section of the platform. Join us as we recognize the following individuals for their significant contributions to NM and EDX medicine. Read their full stories in your Summer 2020 edition of the AANEM EDGE or on [aanem.org](http://aanem.org).

## Lifetime Achievement Award – Jacqueline J. Wertsch, MD



The Lifetime Achievement Award is the AANEM's highest honor, recognizing an AANEM member who has been a major contributor in the fields of NM and EDX medicine by virtue of teaching, research, and scholarly publications.

Dr. Wertsch has authored 100 scientific reviewed publications, 25 book chapters, and countless national and international publications. She has also been an important contributor to the AANEM. She is a past President of the AANEM and is most proud of creating the President's Research Initiative Awards that continue to be awarded every year. She has a simple message for young physicians breaking into their field.

*"Remember to always be a physician," said Dr. Wertsch. "That means you are your patient's advocate. You do not work for an administration. Your work for the patient. Medicine has always been based on an authority-down hierarchy. You have to stay true to your responsibility for the patient, and break out of the hierarchy to make sure they are being served. Don't let others redefine the job for you. There's only one boss – the patients we're trying to serve."*

## Distinguished Physician Award – Peter D. Donofrio, MD



The Distinguished Physician Award recognizes members who have provided distinguished service for a number of years as a clinician and/or educator, or in overall support of AANEM activities.

Dr. Donofrio has focused on peripheral neuropathy and motor neuron disorders throughout his career and brought his expertise to his involvement with the AANEM. He has been an AANEM member since 1982. He is a past President of the AANEM and served on the AANEM Board. He has an important message for current and future physicians.

*"I recommend making medicine fun, exciting, and challenging by letting your patients and colleagues educate you," said Dr. Donofrio. "Consult the medical literature often to augment your knowledge base. In this way, medicine is stimulating, fulfilling, and a constant enrichment process."*

## Distinguished Researcher Award – Vinay Chaudhry, MD



The Distinguished Researcher Award is given to members who have made continuous significant contributions to clinical neurophysiological, neuromuscular, or musculoskeletal research.

Dr. Chaudhry has made significant contributions to research throughout his career. He has received more than 40 research grants and is currently participating in 15 ongoing NM clinical trials. He has also been an author on more than 80 peer-reviewed publications, more than 20 book chapters, as well as more than 75 published abstracts. He has been at the forefront of defining clinical, electrophysiological, and IVIg responsiveness of multifocal motor neuropathy and he has published extensively

on chemotherapy-induced polyneuropathies. His advice to young physicians is to know the human side of medicine.

“The practice of electrodiagnosis gives you a perfect opportunity to fine tune your clinical skills, display great bedside manner, show compassion, and learn the human side of patients,” Dr. Chaudhry said.

#### Advocacy Award – P. Caudill Miller, MD



The Advocacy Award recognizes those who have made extraordinary contributions in advocating to government entities or insurance companies regard NM and EDX medicine in the diagnosis and treatment of disorders.

Dr. Miller has been an active member of the AANEM since 1992. He has been the Alabama State Liaison since the inception of the State Liaison Committee in 2010, and has represented AANEM during almost every one of its “Hill Days.” He has been active in advocating for and ensuring access to quality EDX medicine for all patients. He believes the recent advances in NM treatments and therapies should be a springboard to change.

“Our field is exploding with new drugs, new knowledge, and new treatment algorithms that only we know,” said Dr. Miller. “We must fight to get our voice heard, make access to neurologic care easier, and make sure we survive in practice.”

#### Jun Kimura Outstanding Educator Award – Devon I. Rubin, MD

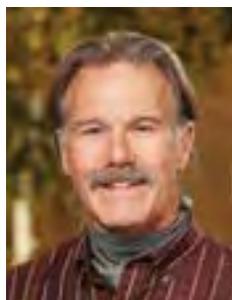


The Jun Kimura Outstanding Educator Award recognizes members for their significant contributions related to NM and EDX medicine education.

Dr. Rubin has achieved every aspect of this award. He has served as a faculty member at the AANEM Annual Meeting, he provides education outside of the AANEM to practicing physicians as well as resident/fellow education programming, and he has developed innovative instruction materials. Dr. Rubin says working with founding AANEM member, the late Jasper Daube, MD, instilled a passion for teaching in him. Now, Dr. Rubin hopes to help instill that same passion in others.

“It is important for each of us, young physicians beginning their careers or seasoned physicians in the middle or ends of their careers, to remember why we come to work each day,” said Dr. Rubin. “Whether treating our patients, teaching others how to better evaluate and manage their patients, or engaging in research to advance our field, we are here to improve the lives of others and help society as a whole. Never lose sight of that why.”

#### Ernest Johnson Outstanding Educator Award – Gregory Carter, MD, MS



The Ernest Johnson Outstanding Educator Award recognizes members for their significant contributions related to NM and EDX medicine education.

Dr. Carter’s contributions to the AANEM Annual Meeting were a determining factor in him receiving the award. He has presented at more than 20 sessions and was always a popular speaker. He has also educated other physicians through his extensive publications while he was the editor in chief of Physical Medicine and Rehabilitation Clinics of North America and senior associate editor of Muscle & Nerve. Dr. Carter says teaching is one of the most important things physicians can do in the course of their careers.

“Even in this age of nearly instantaneous information transfer, the most important aspects of clinical medicine cannot be learned off of a smart phone, website, or even a YouTube video,” said Dr. Carter. “It is the hands-on, personal interactions with our trainees that passes on the knowledge that ensures the future of our field.”

### Scientific Impact Award, Neurology – Yuebing Li, MD, PhD



The Scientific Impact Award recognizes mid-career members for serving as a first author, second author, or senior author on a published paper in a national or international peer-reviewed, indexed journal within the past 2 years.

Dr. Li was awarded for serving as a first author on a July 2017 article in Muscle & Nerve titled “Optimizing Muscle Selection for Electromyography in Amyotrophic Lateral Sclerosis.” The authors compared the yield of limb and thoracic paraspinous muscle examination for revealing lower motor neuron dysfunction on EMG in ALS in a retrospective review of 354 patients with clinically definite or probable ALS. Dr. Li’s advice to young physicians is to get involved in organizations like the AANEM.

“Please keep on networking and volunteering, and avoid working in isolation,” said Dr. Li. “Your opportunity of making an impact in your chosen field will come as long as you are studious and persistent.”

### Scientific Impact Award, PMR – Andrea J. Boon, MD



The Scientific Impact Award recognizes mid-career members for serving as a first author, second author, or senior author on a published paper in a national or international peer-reviewed, indexed journal within the past 2 years.

Dr. Boon was awarded for her work as the senior author on a November 2018 article in Dovepress Journal of Pain Research titled, “Sensitivity of high-resolution ultrasonography in clinically diagnosed carpal tunnel syndrome patients with hand pain and normal nerve conduction studies.” She saw a way for this study to have a practical effect on her everyday work.

“This is a typical situation where I will also use neuromuscular ultrasound to measure the size of the median nerve,” said Dr. Boon. “I often find the nerve is enlarged, sometimes only on the basis of an increased wrist forearm ratio, so I felt this was a good study to do, to evaluate when ultrasound can add to the patient’s workup in this setting.”

### Innovation Award – Zachary N. London, MD



The Innovation Award recognizes forward-thinking members for designing and developing products, services, or processes to enhance patient care and/or transform the quality of patient care through technology and innovation.

Dr. London was chosen for this award based on his focus on developing interactive educational tools. He created EMG Whiz, a popular web-based EMG training simulator. His work was fundamental in the development of two mobile applications to teach the tenets of neuroanatomic localization, Nerve Whiz and Neuro Localizer. He also co-designed and published The Lesion: Charcot’s Tournament, a tabletop strategy board game about neuroanatomy. Dr. London also developed a curriculum in EMG that was adopted by the AANEM.

"I love medical education, and enjoy working on tangible produces, so being part of examination and self-assessment examination committees with the AANEM and ABEM has been particularly fulfilling for me," said Dr. London. "I would encourage new members to get involved with the AANEM. Whatever your strengths and interests, there is a committee that is a good fit for you."

### Public Recognition Award – Estelle Benson



The Public Recognition Award honors those who have made extraordinary contributions toward increasing public awareness of muscle and nerve disorders.

Estelle Benson is co-founder of GBS|CIDP Foundation International, a foundation supporting individuals and families affected by Guillain-Barré syndrome (GBS) and chronic inflammatory demyelinating polyneuropathy (CIDP). She started her efforts to increase awareness and support after her husband was diagnosed with GBS in 1979.

"From the very start of the foundation, the patient has always come first," Benson said. "To this day, over 30 years later, we never lose sight of what the goal is. We never lose sight of the patient."



# NOW APPROVED

© 2020 Genentech USA, Inc. All Rights Reserved.  
M-US-00007655(v1.0) 09/2020

# 2020 Abstract Award Winners

AANEM's list of abstract award winners includes many up and coming stars in the fields of neurology and PMR. Categories include the Best Abstract Awards, President's Research Initiative Awards, Resident and Fellowship Member Recognition Awards.

## 2020 Golseth Young Investigator Award Winners

The Golseth Young Investigator Award, honoring AANEM Founding Member Dr. James Golseth, is presented annually to a medical student or physician in the early stages of his/her career for research in NM and EDX medicine. For 2020, A Golseth Award winner and a runner-up were selected.

### Golseth Young Investigator Award Winner – Goknur Kocak, MD

*A Novel Diagnostic Method for Myasthenia Gravis*



Dr. Kocak's research project focused on extraocular muscles (EOMs), some of the most affected muscles in Myasthenia Gravis (MG). Because of EOMs anatomy, Dr. Kocak says recording their activity is quite challenging. Her research aimed to determine whether it is possible to indirectly measure muscle activities through eye movement velocity.

“We expect to lay the foundation for further studies recording EOMs activity indirectly through eye movement,” said Dr. Kocak. “One day, we are hopeful that recording EOMs activity may play a significant role not only in making a diagnosis, but also in determining the follow-up treatment and adjusting treatment dosage.”

Dr. Kocak says she is honored to be recognized by the AANEM.

“It is a very important milestone for my research and I think it may help my research acquire a lot of attention from the community in a very short period of time,” said Dr. Kocak.

Dr. Kocak earned her medical degree from the Istanbul University's Istanbul Faculty of Medicine. She is currently a neurology resident at Istanbul University-Cerrahpasa, Cerrahpasa Faculty of Medicine and is planning on pursuing a neuromuscular fellowship program after she completes her residency.

### Golseth Young Investigator Award Runner-up – Xiao Huan, MD



*A Prospective Study of Peripheral CD4+T Lymphocyte Subsets and Cytokine Profiles in Patients With Myasthenic Crisis*

Dr. Huan's research project longitudinally followed peripheral CD4+T lymphocytes and cytokine profile in a cohort of Myasthenia Gravis (MG) patients who had myasthenic crisis (MC). The goal is to gain a better understanding of the peripheral immune response and its correlation with clinical scores in MC patients and to guide optimal immunotherapy and individualized treatment.

“Myasthenic crisis is a potentially life-threatening condition with in-hospital mortality of 10-12%,” said Dr. Huan. “It is probably the first longitudinal study in characterizing peripheral CD4+T profile, which may provide future implication of biomarkers for disease progression and predictors for impending crisis.”

Dr. Huan says being named the Golseth Young Investigator Award runner-up encourages her to continue her research.

“I am deeply grateful to my mentor, Professor Chongbo Zhao, who designed the study and made constructive suggestions through the project. He is the one who always encouraged young doctors with big dreams,” said Dr. Huan.

Dr. Huan earned her Bachelor of Medicine degree from Nanjing Medical University. She is now a postgraduate student at Fudan University and is completing neurological residencies at Huashan Hospital, Fudan University in Shanghai, China.

## Best Abstract Award and Runner-up

The Best Abstract Award is given to the best research paper submitted to the AANEM Annual Meeting. All abstracts are considered for this award unless the authors indicate that they do not wish to be considered. For 2020, a Best Abstract Award winner and a runner-up were selected.

### Best Abstract Award Recipient – David Cornblath, MD

*The Procid Study: Efficacy and Safety of 3 Different Dosages of Ivig (Panzyga) in Patients with Chronic Inflammatory Demyelinating Polyneuropathy*



Dr. Cornblath and his team conducted this Octapharma-sponsored multicenter, multinational study to investigate the efficacy and safety of Newgam 1 gm/kg every 3 weeks as maintenance therapy in CIDP. Another goal was to do the same with a lower (0.5 g/kg) and a higher (2.0 g/kg) dose.

“This is part of a long-standing interest in neuropathies and their appropriate treatment,” said Dr. Cornblath. “I hope that the diagnosis of CIDP will be improved, as currently misdiagnosis occurs as much as 50-90% in the United States. This study should add a range of treatment options to those with true CIDP who need additional therapies in this disease with high unmet medical need.”

Dr. Cornblath is a professor of neurology at Johns Hopkins University School of Medicine. He focuses on NM diseases with special emphasis on peripheral neuropathies. He received his medical degree from Case Western Reserve University. He completed his internship in medicine at University Hospitals in Cleveland, Ohio followed by a residency in neurology at the Hospital of the University of Pennsylvania. He then became Clinical Fellow of the Muscular Dystrophy Association in the Peripheral Nerve Morphology Laboratory also at the Hospital of the University of Pennsylvania.

### Runner-Up: Tatsuya Oishi, MD

*Quantitative Analysis of Myokymic Discharges: A Review of 70 Cases*



“The idea and framework for this project was raised by AANEM member Dr. Devon Rubin, and I credit him for his wisdom, his observations, and his guidance,” Dr. Oishi said of the project. “I also credit (fellow AANEM member) Dr. Ruple Laughlin for her mentorship and encouragement throughout the project. Upon hearing about the research idea, I quickly realized that it is at the intersection of my passion for electromyography, my interest in radiation and neurology (as per my last AANEM abstract, which was named last year’s Best Abstract winner), and my familiarity with computer programming/ basic signal processing.”

Dr. Oishi explained the primary mission of this project is to help those conducting EMGs to be more cognizant of myokymic discharges.

“The main message of the project is that while myokymic discharges can be seen in radiation therapy-associated cases and conditions unrelated to radiation, there are some subtle but distinct features on electromyography (e.g. where the myokymic discharge is recorded, as well as quantitative features of the recording itself) that demonstrates distinguishing features. My hope is for electromyographers to better recognize and more comfortably interpret myokymic discharges when encountered during a routine study. On a personal level, my hope is to apply this type of quantitative analysis in other facets of electrodiagnostic studies, to improve the diagnostic yield.”

Originally from Chicago, Dr. Oishi studied neuroscience at Emory University in Atlanta before returning home to attend medical school at the University of Illinois at Chicago. He completed his neurology residency at Mayo Clinic in Rochester, MN, and stayed for his fellowship in clinical neurophysiology/EMG.

### President’s Research Initiative Award

In 2020, AANEM President Yuen So chose emergent therapies in NM diseases as his topic for research for the AANEM Annual Meeting. Abstracts submitted on this topic are automatically considered for the President’s Research Initiative Award; however, only 10 abstracts or fewer are chosen to receive this honor. The winners of this award each receive \$500 cash and have their abstract published in *Muscle & Nerve*.

### 2020 Award Winners

*Pradnya Dhargave, MD*  
*Hala R. Elbabashy, MD*  
*Seung Ah Kang, BA*  
*Elizabeth A. Mauricio, MD*  
*Andrés Nascimento Osorio, MD*  
*Meabh O’Hare, MBBCH*  
*Craig M. Zaidman, MD*

### Residency and Fellowship Member Award

This award is meant to encourage young physician members to conduct research in NM and EDX medicine. The awards are given to AANEM members currently enrolled in a residency or fellowship program. Those who are the first and presenting author of an accepted abstract for the annual meeting receive a \$200 cash reward.

### 2020 Award Winners

Idaira Aguilar Tejedor, MD  
Stephen Anderson, MD  
Monica Barnes, DO  
Cristina Brea, MD  
Leeann Burton, MD  
Ylec Cardenas Castillo, MD  
Alexander Carrese, DO  
Luisa Castaño Herrera, MD  
Helen Cheung, MD  
Anuj Dhir, MD  
Gregory Fenton, MD  
Richard Fontanez-Nieves, MD

Nathali González Alvarado, MD  
Austin Grant, MD  
Olivia Gutgsell, MD  
Masumeh Hatami, MD  
Jacqueline Janecek, MD  
Natalia Jaramillo, MD  
Goknur Kocak, MD  
Christopher Lamb, MD  
Laura Lazzarini, MD  
Minh Quan Le, MD  
Yaowaree Leavell, MD  
Xiaoyan Li, MD, PhD

Jory Liang, MD  
Hannah Machemehl, MD  
Jacob Manske, MD  
Jonathan Morena, DO  
Pritikanta Paul, MBBS  
Elizabeth Pedowitz, MD  
Charles Port, DO  
Danielle Richards, DO  
Nirav Sanghani, MD  
Lisa Scott, DO  
Kaitlin Seibert, MD

Jennifer Siriwardane, MD  
Michael Slama, MD, PhD  
David Smyth, MD  
Scott Speelziek, MD  
Adeeb Syed, DO  
Sara Takacs, MD  
Thomas Torres Cuenca, MD  
Eric Veloso, MD  
Thapat Wannarong, MD  
Cynthia Wozow, DO  
Jared Yee, MD

### Medical Student Research Award

This award encourages medical students to conduct research in NM and EDX. The award is given up to 10 medical students per year. Those who are bestowed the award receive \$500 cash and their abstract is published in *Muscle & Nerve*.

### 2020 Award Winners

Abigail Healy, BS  
Rachael Tolsma, BS  
Yiyi Zhang, BS

UCB Virtual Symposium at AANEM 2020

**Healthcare professionals and their patients:  
How can we better manage uncontrolled  
generalized myasthenia gravis (gMG) together?**

Friday, October 9, 2020 | 9:15–10:15AM (CDT)

**Session Faculty:**

 **James F. Howard, Jr.**  
(Chair)

 **Nicholas J. Silvestri**

 **Kelly Davio**  
(individual living with gMG)

Join us for this virtual symposium where we will hear perspectives from both healthcare professionals and an individual living with gMG to establish how uncontrolled gMG affects the daily lives of patients; we will also explore the importance of working together to try and better predict the unpredictable in gMG.

US-S-DA--2000043 Date of preparation: September 2020  
*This activity is not part of the official scientific program of the AANEM*

 Inspired by patients.  
Driven by science.

To those who say “impossible,  
impractical, unrealistic,” we say

# CHALLENGE ACCEPTED

Alnylam has pioneered RNAi  
therapeutics - an innovative new  
class of medicines. We're working  
tirelessly to develop new treatments  
based on RNAi which we believe  
have the potential to transform  
the lives of people living with  
diseases for which there are limited  
or inadequate treatment options.  
**For people like Sue.**

[alnylam.com](http://alnylam.com)



 Alnylam<sup>®</sup>  
PHARMACEUTICALS  
CHALLENGE ACCEPTED

© 2020 Alnylam Pharmaceuticals, Inc.

Sue, member of a family  
living with hATTR amyloidosis

# Exhibitors

## Akcea Therapeutics

Akcea Therapeutics, Inc., an affiliate of Ionis Pharmaceuticals, Inc. is a biopharmaceutical company headquartered in Boston, Massachusetts focused on developing and commercializing drugs to treat patients with serious and rare diseases. Akcea is commercializing TEGSEDI® (inotersen) and advancing a mature pipeline of novel drugs, including WAYLIVRA® (volanesorsen), now approved in the E.U., AKCEA-APO(a)-LRx, AKCEA-ANGPTL3-LRx, AKCEA-APOCIII-LRx, and AKCEA-TTR-LRx, with the potential to treat multiple diseases. All six drugs were discovered by and are being co-developed with Ionis, a leader in antisense therapeutics, and are based on Ionis' proprietary antisense technology. Additional information about Akcea is available at [www.akceatx.com](http://www.akceatx.com).

Wakefield, MA | [www.akceatx.com](http://www.akceatx.com)

## Alexion Pharmaceuticals

Alexion is a global biopharmaceutical company with the mission of helping the lives of people affected by rare diseases by continuously innovating and creating meaningful value in all that we do. Headquartered in Boston, Massachusetts, Alexion has offices around the globe and serves patients in more than 50 countries.

Boston, MA | [www.alexion.com](http://www.alexion.com)

## Allergan, an AbbVie company

Allergan, an AbbVie company (NYSE: ABBV), is a bold, global pharmaceutical company focused on developing, manufacturing and commercializing branded pharmaceuticals, devices and biologic products for patients around the world. For more information, visit Allergan's website at [www.Allergan.com](http://www.Allergan.com).

Irvine, CA | [www.allergan.com](http://www.allergan.com)

## Alnylam Pharmaceuticals

Founded in 2002, Alnylam is delivering on a bold vision to turn scientific possibility into reality, with a robust RNA interference (RNAi) therapeutics platform. Based on Nobel Prize-winning science, RNAi therapeutics represent a powerful, clinically validated approach for the treatment of a wide range of severe and debilitating diseases. Alnylam is executing on its "Alnylam 2020" strategy of building a multi-product, commercial-stage biopharmaceutical company with a sustainable pipeline of RNAi-based medicines to address the needs of patients who have limited or inadequate treatment options.

Cambridge, MA | [www.alnylam.com](http://www.alnylam.com)

## Amylyx Pharmaceuticals

Amylyx Pharmaceuticals is focused on developing a novel therapeutic for Amyotrophic Lateral Sclerosis (ALS), Alzheimer's disease and other neurodegenerative diseases.

Cambridge, MA | [www.amylyx.com](http://www.amylyx.com)

## argenx

argenx is a global biotechnology company developing medicines for people suffering from severe autoimmune diseases and cancer. By translating immunology breakthroughs into innovative medicines, argenx is working to build a world-class portfolio of antibody-based agents in early and late stages of clinical development. argenx is evaluating efgartigimod in multiple serious autoimmune diseases, studying cusatuzumab in blood cancers in collaboration with Janssen, and investigating earlier-stage candidates within its therapeutic franchises. For more information, visit [www.argenx.com](http://www.argenx.com) and follow us on LinkedIn at <https://www.linkedin.com/company/argenx>.

Boston, MA | [www.gmgcycle.com](http://www.gmgcycle.com)

## AveXis

AveXis is dedicated to developing and commercializing gene therapies for patients and families devastated by rare and life-threatening neurological genetic diseases

Bannockburn, IL | [www.avexis.com](http://www.avexis.com)

## AveXis - Medical Affairs

AveXis is dedicated to developing and commercializing gene therapies for patients and families devastated by rare and life-threatening neurological genetic diseases.

Bannockburn, IL | [www.avexis.com](http://www.avexis.com)

## Biogen

At Biogen, our mission is clear: we are pioneers in neuroscience. Biogen discovers, develops and delivers worldwide innovative therapies for people living with serious neurological and neurodegenerative diseases as well as related therapeutic adjacencies.

Weston, MA | [www.biogen.com](http://www.biogen.com)

### **Cadwell Laboratories, Inc.**

Visit Cadwell's virtual exhibit, talk with us live during the Exhibit Hall breaks at 1 PM daily, contact us through the virtual exhibit booth options, or visit us [www.cadwell.com/AANEM](http://www.cadwell.com/AANEM) to learn about our latest clinical solutions, check out archived webinars or request a demo.

**Kennewick, WA** | [www.cadwell.com/AANEM](http://www.cadwell.com/AANEM)

### **Catalyst Pharmaceuticals, Inc.**

Catalyst Pharmaceuticals is a biopharmaceutical company focused on developing and commercializing innovative therapies for people with rare debilitating, chronic neuromuscular and neurological diseases, including Lambert-Eaton myasthenic syndrome (LEMS), MuSK antibody positive myasthenia gravis, and spinal muscular atrophy (SMA) type 3. Catalyst, in collaboration with national diagnostic lab provider, offers free anti-VGCC antibody testing for adult patient with symptoms suggestive of LEMS. The test is available to adult patients who already have a negative AChR antibody test or an equivocal EMG test for LEMS. Visit our exhibit for more information.

**Coral Gables, FL** | [www.catalystpharma.com](http://www.catalystpharma.com)

### **Corinthian Reference Laboratory**

CRL is a commercial diagnostic laboratory specializing epidermal nerve fiber density (ENFD) testing. ENFD testing offers patients objective evidence of a neuropathy which can hopefully lead to a more accurate diagnosis. For additional information, or to order test kits please contact Greg Davenport at 480-330-3684.

**Benbrook, TX** | [www.corinthianreferencelab.com](http://www.corinthianreferencelab.com)

### **CSL Behring**

CSL Behring is a global biotherapeutics leader driven by our promise to save lives. We meet patients' needs using the latest technologies to develop and deliver innovative biotherapies that are used to treat serious and rare conditions such as coagulation disorders, primary immune deficiencies, hereditary angioedema and respiratory disease.

**King of Prussia, PA** | [www.cslbehring.com](http://www.cslbehring.com)

### **Electrode Store**

The Electrode Store is a leading US manufacturer and distributor of high quality needle electrodes, surface electrodes and related supplies for EMG, nerve conduction studies, and EEG. Products include monopolar and concentric needle electrodes, hypodermic needles for EMG-guided botulinum toxin injections, surface electrodes including a variety of disposable (hydrogel) electrodes, plus electrode gels, pastes and more. Easy and quick ordering by website, phone or email.

**Enumclaw, WA** | [www.electrodestore.com](http://www.electrodestore.com)

### **Elsevier**

Elsevier is a world-leading provider of information solutions that enhance the performance of science, health, and technology professionals, empowering them to make better decisions, and deliver better care.

**Philadelphia, PA** | [www.elsevierhealth.com](http://www.elsevierhealth.com)

### **GBS/CIDP Foundation International**

The GBS | CIDP Foundation International is a global nonprofit organization supporting individuals and their families affected by Guillain-Barré syndrome (GBS), chronic inflammatory demyelinating polyneuropathy (CIDP), and related conditions, through a commitment to support, education, research and advocacy.

**Conshohocken, PA** | [www.gbs-cidp.org](http://www.gbs-cidp.org)

### **Genentech, a Member of the Roche Group**

For more than 40 years, we've been following the science, seeking solutions to unmet medical needs. As a proud member of the Roche Group, we make medicines to treat patients with serious medical conditions.

**South San Francisco, CA** | [www.gene.com](http://www.gene.com)

### **Grifols USA, LLC**

Grifols is a global healthcare company whose mission is to improve the health and well-being of people around the world. We have three primary divisions – Bioscience, Diagnostic and Hospital – that develop, produce and market our innovative products and services to medical professionals in more than 100 countries around the world.

**Los Angeles, CA** | [www.grifols.com/en/usa](http://www.grifols.com/en/usa)

## **Immunovant, Inc.**

Immunovant is a clinical-stage biopharmaceutical company focused on enabling normal lives for patients with autoimmune diseases.

New York, NY | [www.immunovant.com](http://www.immunovant.com)

## **Invitae**

Invitae's mission is to bring comprehensive genetic information into mainstream medical practice to improve the quality of healthcare for billions of people. Our goal is to aggregate most of the world's genetic tests into a single service with higher quality, faster turnaround time and lower prices. Visit [www.invitae.com](http://www.invitae.com).

San Francisco, CA | [www.invitae.com](http://www.invitae.com)

## **Kroger Specialty Infusion**

Kroger Specialty Infusion was founded on the principle of providing superior service and care to patients requiring Ig Therapy as well as critical Home Infusion Therapy. Because of our superior clinical service, expertise, nursing and patient advocacy, we rapidly gained attention to become one of the leading specialty infusion companies in the nation.

Torrance, CA | [www.krogerspecialtyinfusion.com](http://www.krogerspecialtyinfusion.com)

## **Lifesync Neuro**

Building on the Rochester Electro-Medical history of innovation, LifeSync Neuro provides an array of high-quality products that will improve patient testing and care across multiple neurology specialties. Our products deliver excellent signal quality and extremely accurate test results. Our pricing is competitive and our commitment to service is unequalled.

Lutz, FL | [www.rochestersuperstore.com](http://www.rochestersuperstore.com)

## **Mitsubishi Tanabe Pharma America**

Mitsubishi Tanabe Pharma America, Inc. (MTPA) is relentlessly focused on the goal of providing therapies for some of the most difficult-to-treat diseases, including amyotrophic lateral sclerosis (ALS). Our teams work diligently to develop smart options that will enable healthcare providers to offer safe and effective treatments for devastating illnesses. We thrive on solving complex problems in science and medicine and strive to make a real difference in the lives of people struggling with debilitating diseases.

Jersey City, NJ | [www.mt-pharma-america.com](http://www.mt-pharma-america.com)

## **Momenta Pharmaceuticals, Inc.**

Momenta Pharmaceuticals is a biotechnology company with a validated, innovative scientific platform. We focus on discovering and developing novel therapeutics to treat rare, immune-mediated diseases, while advancing our late stage biosimilar portfolio. We are driven by impossible. Since our company's inception, impossible is a word we've heard again and again. Yet, whenever people have told us something was too complex or unorthodox, that's when Momenta has shined brightest. We challenge convention, to bring treatments to patients who've long felt overlooked — treatments that not only offer clinical benefit, but also return quality of life. It's not a path for the faint of heart, but we choose it because we know that with every obstacle we overcome and breakthrough we make, we have the potential to change the future for the patients who need us.

Cambridge, MA | [www.momentapharma.com](http://www.momentapharma.com)

## **Natus**

Natus is committed to providing diagnostic patient monitoring and solutions for neurodiagnostic care. Natus Medical Incorporated improves patient outcomes using the most comprehensive product solutions, depth of training and continuing customer care when diagnosing and treating disorders of the central nervous and sensory systems. For more information, please visit [natus.com](http://natus.com).

Middleton, WI | [www.neuro.natus.com](http://www.neuro.natus.com)

## **Nihon Kohden America**

Nihon Kohden is a leading manufacturer, developer and distributor of neurology, EDX, EEG, PSG, and IOM diagnostic equipment. Founded in 1951 in Japan, the company provides revolutionary neurodiagnostic hardware and software to assist clinicians in diagnosing neurological disorders.

Irvine, CA | [www.us.nihonkohden.com](http://www.us.nihonkohden.com)

## **Sanofi Genzyme**

Sanofi Genzyme, the specialty care global business unit of Sanofi, focuses on rare diseases, rare blood disorders, multiple sclerosis, oncology, and immunology. We help people with debilitating and complex conditions that are often difficult to diagnose and treat. Our approach is shaped by our experience developing highly specialized treatments and forging close relationships with physician and patient communities. We are dedicated to discovering and advancing new therapies, providing hope to patients and their families around the world. Learn more at [www.sanofigenzyme.com](http://www.sanofigenzyme.com).

**Cambridge, MA | [www.sanofigenzyme.com](http://www.sanofigenzyme.com)**

## **SSM Health-Missouri**

SSM Health is more than one of the largest Catholic, non-profit, integrated health care systems in the Midwest. We are a healing ministry of more than 11,000 providers and 38,000 professionals practicing with one shared purpose: Through our exceptional health care services, we reveal the healing presence of God. Here visionary leaders and talented physicians and providers work together, unified by this Mission, to make a difference in the lives of patients. Together, we are able to maximize our collective knowledge to pursue advancements in medicine and expand our ability to deliver exceptional care with faith, humanity and compassion.

**St. Louis, MO | [www.joinssmhealth.com](http://www.joinssmhealth.com)**

## **Takeda Pharmaceutical Company Limited**

Takeda is a global, values-based, R&D-driven biopharmaceutical leader headquartered in Japan, committed to bringing Better Health and a Brighter Future to patients by translating science into highly-innovative medicines. Takeda focuses its R&D efforts on four therapeutic areas: Oncology, Gastroenterology (GI), Neuroscience and Rare Diseases. We also make targeted R&D investments in Plasma-Derived Therapies and Vaccines. [www.takeda.com](http://www.takeda.com)

**Lexington, MA | [www.takeda.com](http://www.takeda.com)**

## **UCB**

UCB, Brussels, Belgium ([www.ucb.com](http://www.ucb.com)) is a global biopharmaceutical company focused on the discovery and development of innovative medicines and solutions to transform the lives of people living with severe diseases of the immune system or of the central nervous system. With more than 7 500 people in approximately 40 countries, UCB generated revenue of € 4.6 billion in 2018. UCB is listed on Euronext Brussels (symbol: UCB). Follow us on Twitter: [@UCB\\_news](https://twitter.com/UCB_news)

**Smyrna, GA | [www.ucb.com](http://www.ucb.com)**

## **WR Medical Electronics Company**

Physicians and researchers world-wide rely on WR Medical Electronics Co. for scientifically validated equipment and exceptional support. Our customers don't see us as just an equipment manufacturer, but as a strategic partner, providing solutions to their Autonomic Testing needs. Our dedicated and experienced staff is committed to providing high-quality products and superior service and support.

**Maplewood, MN | [www.wrmed.com](http://www.wrmed.com)**



Please join Biogen for the  
upcoming AANEM 2020  
Virtual Industry Forum

**Saturday**  
**Oct. 10, 2020**  
**9:15–10:15am CDT**

## Antisense Oligonucleotide Targeted Therapies in SMA and ALS

### FACULTY



**Adrian Krainer PhD, Biochemist**

Cold Spring Harbor Laboratories  
Cold Spring Harbor, NY, USA

### Antisense Oligonucleotides (ASOs): A New Paradigm for Drug Development



**John W. Day MD, PhD, Neurologist**

Stanford Neuroscience Health Center  
Palo Alto, CA, USA

### Targeting *SMN2* and *SOD1*: Future Perspectives on nusinersen for SMA and investigational tofersen in *SOD1* ALS

Biogen products will be discussed at this meeting, Nusinersen Prescribing Information is available at:  
[https://www.spinraza.com/content/dam/commercial/spinraza/caregiver/en\\_us/pdf/spinraza-prescribing-information.pdf](https://www.spinraza.com/content/dam/commercial/spinraza/caregiver/en_us/pdf/spinraza-prescribing-information.pdf)



This activity is not part of the official scientific program of the AANEM

Biogen- 74534, September 2020



The AANEM would like to recognize the following organizations for their financial support which was instrumental in making the 2020 AANEM Annual Meeting possible. Thank you for your commitment to the AANEM and this educational initiative. We value your partnership!

---

Platinum Plus Support

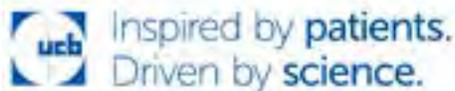
---



---

Silver Level Support

---



---

Bronze Level Support

---



---

Friend Level Support

---



# Acknowledgments & Appreciation

The AANEM Annual Meeting involves countless hours of planning, coordination, and execution, and takes a variety of people behind the scenes to make it happen. The AANEM would like to thank the following committee and staff members for their contributions to the 2020 meeting.

## Abstract Review Committee

Jeffery A. Strommen, MD  
Elham Bayat, MD  
Elliot Bodofsky, MD  
Diana Castro, MD  
Segun T. Dawodu, MD, JD, MBA, LL.M., MS  
Andrew H. Dubin, MD, MS  
Bakri H. Elsheikh, MBBS  
Jin J. Luo, MD, PhD  
Rebecca A. O'Bryan, MD  
Gregory Robbins, MD  
Christopher A. Scheiner, MD, PhD

## Abstract Review Subcommittee

Parveen Athar, MD  
Kathleen H. Burgess, MD  
Bernadette Dunn, MD  
Behzad Elahi, MD, PhD  
Matthew Ginsberg, MD  
Raghav Govindarajan, MD  
Sonalee Kulkarni, MD  
Michelle A. McFarlane, MD  
Anza B. Memon, MD  
Ib R. Odderson, MD, PhD  
Divisha Raheja, MD  
Pooja Raibagkar, MD  
Vivian Roy, MN  
Mohammad K. Salajegheh, MD  
Oksana Y. Sayko, MD  
Zachary R. Schott, MD  
Sheetal Shroff, MD  
Jonathan M. Tisdell, MD  
Faren H. Williams, MD

## Program Committee

Gordon A. Smith, MD  
Gil I. Wolfe, MD  
Monica J. Carrion-Jones, MD  
Earl J. Craig, MD  
James R. Dorman, MD  
Amtul S. Farheen, MD  
Andy Galbreath, DO  
Perry B. Shieh, MD, PhD  
Nicholas J. Silvestri, MD  
Andrew J. Skalsky, MD  
Michael E. Wimmer, MD

## Special Interest Group Committee

Erika P. Greene, MD  
Gita R. Baruah, MD  
Ryan Castoro, DO, MS  
William Filer, MD  
Anne G. Hartigan, MD  
Chad J. Hoyle, MD  
Vita G. Kesner, MD, PhD  
Justin Y. Kwan, MD  
Gabrielle Nguyen, MD  
Gregory Robbins, MD  
Greg A. Schaublin, MD

## Technologist Education Committee

Samuel M. Bierner, MD  
Jerry Morris, CNCT  
Arun K. Chandok, MD  
Candy Dolan, CNCT

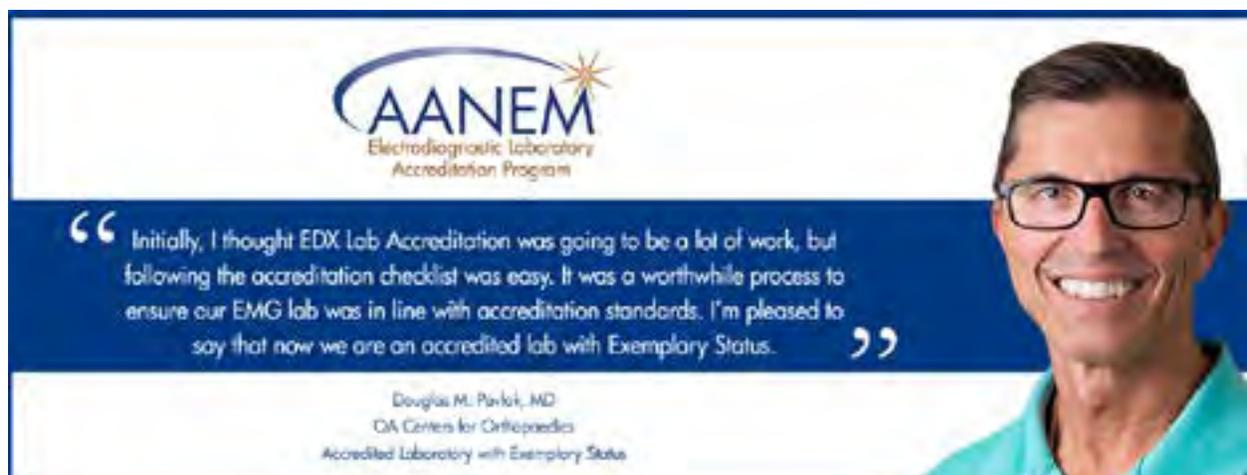
Kristin L. Dombroski, CNCT  
Daniel B. Simmons, MD  
Mary Strickland, CNCT  
Darrell Thomas, MD  
Haram K. Tiwana, MD  
Loretta M. VanEvery, MD

## Ultrasound Committee

Monika Krzesniak-Swinarska, MD  
Rebecca Dutton, MD  
Rocio C. Garcia Santibanez, MD  
Lisa D. Hobson-Webb, MD  
Susan J. Kim, DO  
Matthew E. Miller, MD  
Sarada Sakamuri, MD  
Elena Shanina, MD, PhD  
Jeffrey A. Strakowski, MD  
Shumalia Sultan, MD

## Workshop Committee

Mohamed Kazamel, MD  
Katharine E. Alter, MD  
Ali Arvantaj, CNCT  
Kathleen H. Burgess, MD  
Mathieu Cuchanski, DO  
Lester S. Duplechan, MD  
Carrie E. Ford, CNCT  
Neelam Goyal, MD  
David Haustein, MD  
Philip S. Hsu, MD  
Maxwell Ma, MD  
Jennifer Martinez-Thompson, MD  
Aloysia L. Schwabe, MD



**AANEM**  
Electrodiagnostic Laboratory  
Accreditation Program

“ Initially, I thought EDX Lab Accreditation was going to be a lot of work, but following the accreditation checklist was easy. It was a worthwhile process to ensure our EMG lab was in line with accreditation standards. I'm pleased to say that now we are an accredited lab with Exemplary Status. ”

Douglas M. Pavlot, MD  
OA Center for Orthopedics  
Accredited Laboratory with Exemplary Status



**Shirlyn A. Adkins, JD**  
Executive Director

**Jacob Sokol**  
IT Director

**Mary Kay Costello**  
Assoc. Executive/HR Support

**Jay Schweinfus**  
Marketing & Membership Director

**Sarah Slaby**  
BizOps Controller at CLA

**Christy Ogden**  
Sr. Project Coordinator

**Shelly Jones**  
Corporate Relations & Foundation  
Director

**Raquel Hellman**  
Marketing Coordinator

**Erin Nelson**  
Corporate & Foundation Coordinator

**Whitney Lutteke**  
Communications & Graphic  
Designer

**Tracy Parks**  
Sr. Meeting Coordinator

**Sandra Furr**  
Administrative/Membership Specialist

**Millie Suk, JD, MPP**  
Health Policy Director

**Anna Vredenburg**  
Professional Standards Sr.  
Coordinator

**Carrie Winter, RHIA**  
Health Policy Manager

**Zoe Cantu**  
Project Specialist

AANEM 2020 Annual Meeting

## In Touch with Patient Needs: A Treatment Option for The Polyneuropathy of Hereditary ATTR Amyloidosis

Thursday, October 8<sup>th</sup>, 2020 | 9:15AM – 10:15AM (CT) [www.aanem.org/Meetings/Annual-Meeting/Registration-Information](http://www.aanem.org/Meetings/Annual-Meeting/Registration-Information)

**MULTIDISCIPLINARY FACULTY**

<p><b>CARDIOLOGY</b></p>  <p><b>Dr. Andrew Darlington</b> Piedmont Atlanta Hospital</p>	<p><b>NEUROLOGY</b></p>  <p><b>Dr. Said Beydoun</b> University of Southern California</p>
--	--

**PATIENT MODERATOR**



This interactive panel session will be moderated by Jean, who will share her personal journey living with hATTR amyloidosis with polyneuropathy.



An innovative patient-moderated panel, including a Cardiologist and a Neurologist with discussion on how early diagnosis and treatment are imperative in managing hATTR amyloidosis with polyneuropathy. In addition, these experts share various perspectives on a unique treatment option and its effects on progression of neuropathy and patient quality of life. We look forward to you joining the discussion!



This Industry Theater presentation is not part of the scientific program as planned by the AANEM Program Committee. This event is neither sponsored nor endorsed by AANEM. This event does not qualify for continuing education credit.

©2020 Akcea Therapeutics, Inc. All rights reserved. US-TTR-2000028 03/20

# Streamlining Access to Innovative Infusion Therapies for Patients with Neuromuscular Disorders

By Jennifer Johnston, RN, BSN  
Director, Specialized Therapies, Option Care Health



## The expansion of innovative treatments for neuromuscular disorders offers both hope and challenge.

A deluge of emergent infused and injectable therapies is broadening treatment options, whether newly approved, in clinical development (such as gene therapies for DMD and B-cell-directed therapy approaches for MG) or in existence as treatment for other conditions.

While this is great news for patients, these treatments are often costly, administration is complex and access can be challenging for specialists overseeing patient care and referrals.

Option Care Health helps neurologists navigate emerging therapies and new approaches so they can focus on patient care rather than the referral process. As a collaborative partner to providers and biopharmaceutical manufacturers, we closely track the drug development pipeline, thinking ahead about how we can make novel therapies work for patients as soon as they are approved and become available.

**A one-stop-shop for these complex neurotherapies, Option Care Health is the industry leader as the only national, independent provider focused entirely on home and infusion suite services.**

## Treatment Access

- National network of pharmacies serving clinicians and patients through more than 125 infusion suites<sup>1</sup> as well as in home settings
- Partnerships with biopharmaceutical manufacturers provide access to a wide variety of therapies, including limited distribution drugs
- Expert clinical support from IG Centers of Excellence and robust IG product supply help ensure consistency and continuity of care
- Clinical management of more than 150,000 infusions each year for patients with chronic conditions<sup>1</sup>
- Streamlined referrals and authorizations reduce time in getting patients started on therapy

Reference: 1. Data on file, Option Care Health.

## Clinical Excellence

- Specialized training for infusion nurses and pharmacists on disease states and products
- Close coordination with providers to develop customized patient care plans and offer regular treatment updates
- Extensive patient education resources with experienced clinicians available 24/7/365 to provide the highest level of support
- Rigorous safety protocols updated regularly during the COVID-19 pandemic and beyond enable us to accelerate the transition of patients from hospital to home or one of our infusion suites

## Insurance Coverage and Costs

- Only infusion provider in-network with every national health plan
- [Patient navigators](#) help patients lower their out-of-pocket costs whenever possible through accessing available manufacturer copays and disease foundation financial assistance programs

# 2019 - 2020 Board of Directors

The AANEM's volunteer Board of Directors is responsible for the association's strategic planning, policy creation, financial oversight, and executive director supervision.

## **President**

Yuen T. So, MD, PhD

## **Secretary-Treasurer**

Holli A. Horak, MD

## **President-Elect**

Bonnie Weigert, MD

## **Past President**

Anthony E. Chiodo, MD, MBA

## **Directors**

Lisa D. Hobson-Webb, MD

Robert W. Irwin, MD

Michael C. Munin, MD

Dianna Quan, MD

Ileana Howard, MD

Ghazala Hayat, MD

## **Resident/Fellow Leadership Liaisons**

Julia Reilly, MD

Rocio Vazquez do Campo, MD

## **Historian**

John C. Kincaid, MD

## **Executive Director**

Shirlyn A. Adkins, JD

**NOW AVAILABLE**  
**Vivacity MG-Phase 2**  
**Interim Analysis**  
**Top Line Results**

Visit our Resources Section to download our MG & Nipocalimab Interactive Overview and Phase 2 Poster to view the data.



A community dedicated to improving the lives of patients with neuromuscular diseases.



“ AANEM has always been the central hub for me to interact with colleagues all over the world. It brings in colleagues with similar interests and expertise, and yet we are diverse enough that we can constantly learn from each other. ”

~ Yuen T. So, MD, PhD

## Join AANEM Today!

**The premier association in neuromuscular & electrodagnostic medicine.**

- More than 5,000 members strong
- An exceptional annual scientific meeting
- Free and discounted educational products
- Collaboration and leadership opportunities
- The prestigious *Muscle & Nerve* journal
- Advocates working on your behalf
- Funding for research
- So much more!

Visit [www.aanem.org/Value-of-Membership](http://www.aanem.org/Value-of-Membership)

AANEM President Yuen So, MD, PhD - member since 1988. Currently a Professor of Neurology at Stanford University Medical Center and previously Vice Chair & Director, Neurology Clinics, Dept. of Neurology at Stanford. He is certified by the American Board of Electrodagnostic Medicine and by the American Board of Psychiatry and Neurology.

## Meeting Objectives

- The 2020 annual meeting will focus on improving patient care, medical knowledge, interpersonal communication, professionalism, and systems-based practices in to diagnose and treat patients with NM and MSK disorders; including the latest information on genetics and therapies, assistive technology for gait, and NM disorders in pregnancy, the utilization of US, EDX, intraoperative monitoring, autoantibodies, and biopsy testing in the diagnosis of patients, and the respiration and cardiac management of patients.

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; assess rehabilitation potential for patients with NM and MSK disease; treat patients with neuropathic pain, and pregnancy related issues in NM disease, recognize how emerging technologies can improve the lives of patients. (Patient care)
- Develop technical skills necessary to perform neurologic, EDX, and rehabilitative procedures; identify and describe important EDX, biopsy, genetic, and US findings; develop awareness treatment, therapies, and side effects, and discuss the latest literature on NM disorders. (Medical knowledge, Practice-based learning)
- Improve ability to communicate with and educate patients, families, and members of the healthcare team; 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. (Interpersonal communication skills, Professionalism)
- Develop strategies for working in a multidisciplinary clinic, awareness of cost of emerging treatments and therapies; identify and access supportive healthcare services and mechanisms that improve patient care and patient quality of life. (Systems-based practice)

## Accreditation Statement

The AANEM is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

## AMA Credit Designation Statement

The AANEM designates this live activity for a maximum of 23.75 *AMA PRA Category 1 Credits*<sup>™</sup>. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

## Self-Assessment Credit

Six courses at the 2020 annual meeting will be designated to offer Part II MOC Self-Assessment credit for physicians. AANEM will report completion of this self-assessment activity to ABPN and ABPMR.

## Disclaimer Statement

AANEM will disclose to learners the relevant financial relationships for those in control of CME content prior to the educational activity or disclose that there were no relevant financial relationships. Information will be provided through print and verbal disclosures.

## AANEM Annual Meeting Refund Policy

The association dedicates a significant amount of time and expense to deliver a great annual meeting each year. While we hope everyone who registers for the annual meeting will be able to attend, we understand that circumstances may sometimes prevent this from happening. AANEM has established the following policy for those who request a refund.

AANEM will give a full refund for the virtual AANEM Annual Meeting for any reason. A full refund will be issued to any registrant upon request, without any fees or penalties, no matter when they registered for the virtual meeting. When possible, cancellations with advance notice are appreciated. All refund/cancellation requests must be received on or before October 6, 2020.

All refund/cancellation requests for the virtual meeting must be submitted by emailing [aanem@aanem.org](mailto:aanem@aanem.org). Cancellations will not be accepted over the telephone or by mail.

## AANEM CME Programming

It is the policy of the AANEM to ensure balance, independence, objectivity and scientific rigor in all of its educational activities. This program is for scientific and educational purposes only and will not, directly or indirectly, promote the interests of any commercial interest. All CME sessions that are offered as part of the official AANEM Annual Meeting program are determined solely by the AANEM Annual Meeting planning committees and approved by the AANEM Board. Planning committees identify professional practice gaps, choose topics and identify session chairs for each session, and determine the educational format. Material presented at the sessions cannot contain any advertising, corporate logo, trade name, or product-group message. All scientific research referred to, reported or used in support of justification of a patient care recommendation will conform to generally accepted standards of experimental design, data collection and analysis. Speakers are requested to provide a balanced view of therapeutic options, using generic names in presentations to contribute to impartiality. If content includes trade names, speakers are instructed to incorporate the trade names from several companies.

*Specific disclosure information for all speakers, planning committee members and course chairs participating in the 2020 Annual Meeting is provided in the Disclosure Index at the registration desk or online at [www.aanem.org/disclosures](http://www.aanem.org/disclosures).*

## Industry Forums

Industry Forums are commercially supported educational activities held in conjunction with the AANEM Annual Meeting. These satellite symposia sessions are not part of the AANEM's official annual meeting program and are planned by an outside company or party. These sessions are clearly labeled as Industry Forums to allow the participant to be fully aware of any bias in the presentations. Seating at sessions is limited, and food is provided by the AANEM to Industry Forum attendees on a first come, first-served basis.

**ZOLGENSMA® (onasemnogene abeparvec-xioi)**  
**Suspension for intravenous infusion**  
**Rx Only**

**Brief Summary of the Full Prescribing Information.**  
**See Full Prescribing Information.**

**BOXED WARNING: ACUTE SERIOUS LIVER INJURY**

- **Acute serious liver injury and elevated aminotransferases can occur with ZOLGENSMA.**
- **Patients with pre-existing liver impairment may be at higher risk.**
- **Prior to infusion, assess liver function of all patients by clinical examination and laboratory testing (e.g., hepatic aminotransferases [aspartate aminotransferase (AST) and alanine aminotransferase (ALT)], total bilirubin, and prothrombin time). Administer systemic corticosteroid to all patients before and after ZOLGENSMA infusion. Continue to monitor liver function for at least 3 months after infusion.**

**INDICATIONS AND USAGE**

ZOLGENSMA is an adeno-associated virus vector-based gene therapy indicated for the treatment of pediatric patients less than 2 years of age with spinal muscular atrophy (SMA) with bi-allelic mutations in the *survival motor neuron 1 (SMN1)* gene.

**Limitation of Use:** The safety and effectiveness of repeat administration of ZOLGENSMA or the use in patients with advanced SMA (e.g., complete paralysis of limbs, permanent ventilator dependence) has not been evaluated.

**DOSAGE AND ADMINISTRATION**

**For single-dose intravenous infusion only.**

The recommended dosage of ZOLGENSMA is  $1.1 \times 10^{14}$  vector genomes (vg) per kg of body weight.

- Administer ZOLGENSMA as an intravenous infusion over 60 minutes.
- Starting one day prior to ZOLGENSMA infusion, administer systemic corticosteroids equivalent to oral prednisolone at 1 mg/kg of body weight per day for a total of 30 days. At the end of the 30-day period of systemic corticosteroid treatment, check liver function by clinical examination and by laboratory testing. For patients with unremarkable findings, taper the corticosteroid dose over the next 28 days. If liver function abnormalities persist, continue systemic corticosteroids (equivalent to oral prednisolone at 1 mg/kg/day) until findings become unremarkable, and then taper the corticosteroid dose over the next 28 days. Consult expert(s) if patients do not respond adequately to the equivalent of 1 mg/kg/day oral prednisolone.

**WARNINGS AND PRECAUTIONS**

**Acute Serious Liver Injury and Elevated Aminotransferases**

Acute serious liver injury can occur with ZOLGENSMA. Prior to ZOLGENSMA infusion, a patient with infantile-onset SMA had elevated AST and ALT of unknown etiology (gamma-glutamyl transferase [GGT], total bilirubin and prothrombin time were normal). The patient was treated under an expanded access program in the United States. The patient received corticosteroids equivalent to oral prednisolone at 1 mg/kg/day for approximately 30 days, followed by a 14-day taper. Approximately 7 weeks after receiving ZOLGENSMA, the patient became jaundiced. Laboratory testing was consistent with acute serious liver injury, with AST level approximately  $80 \times$  ULN (upper limit of normal) and ALT level approximately  $45 \times$  ULN, total bilirubin approximately  $4 \times$  ULN, and plasma prothrombin time approximately  $4 \times$  ULN. Liver biopsy showed acute massive degeneration of hepatocytes, and massive mixed inflammatory infiltrate (primarily CD8-positive T lymphocytes). The patient recovered to baseline status after treatment with corticosteroids. Administration of ZOLGENSMA may result in aminotransferase elevations. Two (2/44) patients in clinical trials had increased AST and ALT levels up to  $48 \times$  ULN after ZOLGENSMA infusion. These patients, who were otherwise asymptomatic with normal total bilirubin, were managed with systemic corticosteroids, and the abnormalities resolved without clinical sequelae. Prior to ZOLGENSMA infusion, assess liver function by clinical examination and laboratory testing (hepatic aminotransferases [AST and ALT], total bilirubin level, and prothrombin time). Continue to monitor liver function for at least 3 months after ZOLGENSMA infusion (weekly for the first month, and then every other week for the second and third months, until results are unremarkable). Administer systemic corticosteroid before and after ZOLGENSMA infusion.

**Thrombocytopenia**

Transient decreases in platelet counts, some of which met the criteria for thrombocytopenia, were observed at different time points after ZOLGENSMA infusion. Monitor platelet counts before ZOLGENSMA infusion and on a regular basis afterwards (weekly for the first month; every other week for the second and third months until platelet counts return to baseline).

**Elevated Troponin-I**

Transient increases in cardiac troponin-I levels (up to 0.176  $\mu$ g/L) were observed following ZOLGENSMA infusion in clinical trials. The clinical importance of these findings is not known. However, cardiac toxicity was observed in animal studies. Monitor troponin-I before ZOLGENSMA infusion and on a regular basis for at least

3 months afterwards (weekly for the first month, and then monthly for the second and third months until troponin-I level returns to baseline).

**ADVERSE REACTIONS**

The safety data described in this section reflect exposure to ZOLGENSMA (onasemnogene abeparvec-xioi) in four open-label studies conducted in the United States, including one completed clinical trial, two ongoing clinical trials, and one ongoing observational long-term follow-up study of the completed trial. A total of 44 patients with SMA received intravenous infusion of ZOLGENSMA, 41 patients at or above the recommended dose, and 3 patients at a lower dose. The patient population ranged in age from 0.3 months to 7.9 months at the time of infusion (weight range 3.0 kg to 8.4 kg). The most frequent adverse reactions (incidence  $\geq 5\%$ ) observed in the 4 studies were elevated aminotransferases\* 27.3% (12/44) and vomiting 6.8% (3/44).

One patient in an ongoing non-United States clinical trial initially presented with respiratory insufficiency 12 days after ZOLGENSMA infusion and was found to have respiratory syncytial virus (RSV) and parainfluenza in respiratory secretions. The patient had episodes of serious hypotension, followed by seizures, and was found to have leukoencephalopathy (brain white matter defects) approximately 30 days after ZOLGENSMA infusion. The patient died after withdrawal of life support 52 days after ZOLGENSMA infusion.

**Immunogenicity**

In ZOLGENSMA clinical trials, patients were required to have baseline anti-AAV9 antibody titers of  $\leq 1:50$ , measured using an enzyme-linked immunosorbent assay (ELISA). Evidence of prior exposure to AAV9 was uncommon. The safety and efficacy of ZOLGENSMA in patients with anti-AAV9 antibody titers above 1:50 have not been evaluated. Perform baseline testing for the presence of anti-AAV9 antibodies prior to ZOLGENSMA infusion. Retesting may be performed if anti-AAV9 antibody titers are reported as  $> 1:50$ .

Following ZOLGENSMA infusion, increases from baseline in anti-AAV9 antibody titers occurred in all patients. In the completed clinical trial, anti-AAV9 antibody titers reached at least 1:102,400 in every patient, and titers exceeded 1:819,200 in most patients. Re-administration of ZOLGENSMA in the presence of high anti-AAV9 antibody titer has not been evaluated.

\*Elevated aminotransferases include elevation of alanine aminotransferase (ALT) and/or aspartate aminotransferase (AST). In the completed clinical trial, one patient (the first patient infused in that study) was enrolled prior to the protocol amendment instituting administration of prednisolone before and after ZOLGENSMA infusion.

**DRUG INTERACTIONS**

Where feasible, adjust a patient's vaccination schedule to accommodate concomitant corticosteroid administration prior to and following ZOLGENSMA infusion. Certain vaccines, such as MMR and varicella, are contraindicated for patients on a substantially immunosuppressive steroid dose (i.e.,  $\geq 2$  weeks of daily receipt of 20 mg or 2 mg/kg body weight of prednisone or equivalent). Seasonal RSV prophylaxis is not precluded.

**USE IN SPECIAL POPULATIONS**

**Pediatric Use**

Administration of ZOLGENSMA to premature neonates before reaching full-term gestational age is not recommended, because concomitant treatment with corticosteroids may adversely affect neurological development. Delay ZOLGENSMA infusion until the corresponding full-term gestational age is reached. There is no information on whether breastfeeding should be restricted in mothers who may be seropositive for anti-AAV9 antibodies. The safety of ZOLGENSMA was studied in pediatric patients who received ZOLGENSMA infusion at age 0.3 to 7.9 months (weight range 3.0 kg to 8.4 kg). The efficacy of ZOLGENSMA was studied in pediatric patients who received ZOLGENSMA infusion at age 0.5 to 7.9 months (weight range 3.6 kg to 8.4 kg).

**Hepatic Impairment**

One patient who received ZOLGENSMA developed acute serious liver injury; that patient had elevated aminotransferase levels prior to ZOLGENSMA infusion. In clinical trials, elevation of aminotransferases was observed in patients following ZOLGENSMA infusion.

**PATIENT COUNSELING INFORMATION**

See the ZOLGENSMA Full Prescribing Information for the Patient Counseling Information.

**Please visit ZOLGENSMA-HCP.com for Full Prescribing Information, including Boxed Warning.**

Manufactured by, Packed by, Distributed by:  
AveXis, Inc. | 2275 Half Day Road, Suite 200 | Bannockburn, IL 60015 USA  
U.S. License No. 2104 U.S.-ZOL-19-0202 07/2019





American Association of Neuromuscular & Electrodiagnostic Medicine  
2621 Superior Drive NW  
Rochester, MN 55901  
T: 507.288.0100



[facebook.com/AANEMorg](https://facebook.com/AANEMorg)



[AANEM.ORG](https://AANEM.ORG)



[twitter.com/AANEMorg](https://twitter.com/AANEMorg)