

ASET 2017

ANNUAL CONFERENCE

PRELIMINARY PROGRAM & REGISTRATION

58TH ANNUAL MEETING

AUGUST 10-12

WESTIN LA PALOMA RESORT & SPA

TUCSON, AZ

ASET.ORG





GETTING EMPLOYER SUPPORT TO ATTEND THE ASET 2017 ANNUAL CONFERENCE

Hospitals and healthcare facilities are facing stricter financial constraints and reducing their travel and training budgets.

Here are some helpful tips on getting employer support for attending ASET's 2017 Annual Conference:

- Focus on how your attendance at the conference will benefit the lab as a whole and the valuable information you will bring back.
- Explain what you will get from attending, such as continuing education credits (ASET-CEUs); a full 3-day registration is worth **21.5 ASET-CEUs!**
- Offer to deliver a short presentation and Q&A to your co-workers on what you learned at the conference.
- As an attendee you will be provided a flash drive with the course handouts. Offer to share this material with your colleagues.
- Review the course schedule in advance and explain what you plan to attend, and how it will help you and your facility.
- Offer to share a hotel room with another attendee in order to decrease expenses.
- Be prepared with a plan for who will cover your work while you are away.
- Plan ahead to make sure you get registered at the discounted rate. The last day for the early-bird rate is **June 30**.

The three days during ASET's 2017 Annual Conference will be the most cost-effective professional development choice you can make all year.

PEAK PERFORMANCE

Make plans now to join us in Tucson, AZ for ASET's 58th Annual Conference. Our conference theme this year is "Peak Performance" to reflect the lovely mountain-side setting of our conference and because the program is packed with meaningful sessions that will enhance your work life and improve your skills. Each day begins with a plenary session for all attendees, covering topics that will be of great interest to all neurodiagnostic practitioners. You can read the full description of our plenary events on pages 6 and 7 of this brochure. Each of these sessions promises thoughtful discussion about major factors which influence our jobs and opportunities in the future. The final event of the conference is the ASET 2017 Symposium, the Skills Summit, with expert panelists sharing their views on the question: "What skills do neurodiagnostic technologists need in the future?" A dynamic discussion with input from the audience will help us discover the answers to that question. Over the three-day conference program, there will be four sessions running concurrently, providing ample choices for customized learning. You will find the course schedules on pages 3-5 of this brochure. Sundown Seminars round out the program on Friday evening with an additional opportunity to participate in a skill-building workshop. The enjoyable learning continues with poster viewing sessions in the Exhibit Hall. You will also have the opportunity to meet with vendors and explore the latest in equipment, electrodes and lab supplies. The ASET Foundation Silent Auction items will be on display in the Exhibit Hall so plan on placing bids on great items. The "meeting app" was a big hit last year and we will once again offer this option to help attendees network and keep track of conference events.

Our conference site, the Westin La Paloma is a five-star resort nestled in the foothills of the Santa Catalina Mountains. There are five pools, a 177 foot water slide, spa, golf, and tennis all within the resort, and six restaurants on the property, so bring the family to enjoy a relaxing vacation! The La Encantada Shopping center is just over a mile away and offers additional dining options along with shopping.

Tucson is the jewel of the desert, enhanced by the cool mountain air. You and your family can spend time in Old Tucson, an attraction that recreates the Old West, or go horseback riding at the nearby saddle ranches. For those who want to explore a night out, there are nearby casinos. Come for the learning and networking and create memories with your ASET friends.

WHO SHOULD ATTEND?

ASET welcomes neurodiagnostic technologists, students, physicians, other health care providers, and personnel representing vendors that supply products and services to the profession. This is the premier event for all disciplines of neurodiagnostics, including electroencephalography (EEG), evoked potentials (EP), intraoperative neuromonitoring (IONM), long-term and ICU monitoring, nerve conduction studies (NCS), transcranial doppler (TCD), magnetoencephalography (MEG), autonomic function testing, and pediatric/neonatal neurodiagnostics as well as professional and leadership development for the neurodiagnostic technologist.



SCHEDULE OF EVENTS

THURSDAY, AUGUST 10

	Program Committee: Linda Kelly, R. EEG/EP T., R.NCS.T., CNCT, FASET, BS Kelly Clement, R. EEG T., CNIM	Course Director: Julie Peterson, R. EEG/EP T., CLTM	Course Director: Cyndi Miller, R. EEG T., CNIM, R.NCS.T., CNCT	Course Director: Petra Davidson, R. EEG/EP T., FASET, BS	
	Platform Presentations	LTM/Epilepsy	Nerve Conduction Studies	Autonomic Mini-Course	
8:15 – 9:15 a.m.	Plenary Session: Lewis Kull Memorial Keynote Address “The Bright Future of the Neurodiagnostic Profession” <i>Amar Mann, MA</i>				
9:15– 9:45 a.m.	Evaluation of Femoral Nerve Monitoring Data in Far Lateral Transpsoas Lumbar Spine Surgery <i>Jon Block, DC, CNIM</i>	An LTM Patient Story from A-Z First Admission to Surgery <i>Joseph Sirven, MD</i>	NCS Techniques and Insider Tips <i>Holli Horak, MD</i>	The Autonomic Nervous System and Function and Disorders of the ANS <i>Brent Goodman, MD</i>	
9:45 – 10:15 a.m.	A Novel Approach for the Intraoperative Detection of C5 Nerve Root Palsies <i>Justin W. Silverstein, DHSc, CNIM, R. EP T., R.NCS.T., CNCT, NCT-C</i>				
10:15 – 11:00 a.m.	Break in Exhibit Hall with Poster Viewing				
11:00 - 11:55 a.m.	The Threat is Real: Stories of Encroachment and Inadequate Patient Care ASET Government Advocacy Committee Presentation <i>Roberta Esfandiari, R. EEG T.; Kristin Neel-Roberts, R. EEG/EP T., AS</i>	Seizure Semiology <i>Adriana Tanner, MD</i>	Brachial Plexus NCS <i>Jim Lewis, R.NCS.T., CNCT</i>	Autonomic Workshop Part I: Tour of the Equipment and Demonstration <i>Stephanie Weid, R. EEG T., CAP</i>	
Noon – 1:30 p.m.	Annual Business Meeting Luncheon				
1:30 – 2:00 p.m.	Benefit of IONM in a Pediatric Patient with Spinal Dysmorphism, Split Cord Malformation and Scoliosis <i>Faisal Jahangiri, MD, CNIM, D.ABNM, FASNM</i>	1:30- 2:15 p.m.	Asystole in the LTM Lab <i>Gina Hopkins, MD</i>	Everything You Need to Know About Blink Reflex Studies <i>Mark Ryland, R. EP T., RPSGT, R.NCS.T., CNCT, FASET, Au.D.</i>	Autonomic Workshop Part II: Hands On Practice <i>Stephanie Weid, R. EEG T., CAP</i>
2:00 – 2:30 p.m.	Could Improvement in Evoked Potentials During Craniovertebral Decompression in Patients with Arnold Chiari Malformation Type II Obviate the Need for Duraplasty? <i>Joshua Castle, R. EEG/EP T., CNIM</i>	2:15 - 3:00 p.m.	The Critically Ill LTM Patient <i>Amy Crepeau, MD</i>	NCS for the Femoral, Lateral Femoral, Cutaneous & Obturator Nerve <i>Jerry Morris, R.NCS.T., CNCT, FASET, MS</i>	TCD Mini-Course TCD Workshop Part I Introduction: Anatomy, Theory and Technique <i>DonaLee Davis, CNRN</i>
2:30 – 3:00 p.m.	A Checklist for Responding to Intraoperative Neuromonitoring Changes <i>Rebecca Rendahl, R. EEG T., CNIM</i>				
3:00 – 3:45 p.m.	Break in Exhibit Hall with Poster Viewing				
3:45 – 4:15 p.m.	TCeMEP Neuromonitoring in Neurosurgery: Technological Advancement with Navigation <i>Ernesto Lima, MD, D.ABNM</i>	3:45 - 4:30 p.m.	Alternative Treatments for Epilepsy <i>David Labiner, MD</i>	Hands-On NCS Workshop <i>Jim Lewis, R.NCS.T., CNCT Jerry Morris, R.NCS.T., CNCT, FASET, MS Joyce Riedel, R. EEG T., CNIM, R.NCS.T., BA Judy LonCar-Milkovich, R.NCS.T.</i>	TCD Workshop Part II: Hands-On Workshop <i>DonaLee Davis, CNRN</i>
4:15 – 4:45 p.m.	Neuromonitoring for International Medical Missions <i>Jon Block, DC, CNIM</i>				
4:45 – 5:15 p.m.	Neural Mapping Techniques for Transpsoas Lateral Interbody Fusion <i>Justin W. Silverstein, DHSc, CNIM, R. EP T., R.NCS.T., CNCT, NCT-C</i>	4:30 - 5:15 p.m.	Stereotactic EEG <i>Michael Stein, MD</i>		
5:15 – 6:30 p.m.	Exhibit Hall Welcome Reception				

SCHEDULE OF EVENTS

FRIDAY, AUGUST 11

	Program Committee Linda Kelly, R. EEG/EP T., R.NCS.T., CNCT, FASET, BS Kelly Clement, R. EEG T., CNIM	Course Director: Sara Batson, R. EEG/EP T., CNIM, CLTM, BS		Course Director: Kathy Johnson, R. EEG/EP T., RPSGT, RST, FASET	Course Director: Christina Newell, R. EEG/EP T.	
	Platform Presentations	IONM Fundamentals & Current Topics		Evoked Potentials	EEG Key Topics	
8:00 – 9:00 a.m.	Plenary Session: Ellen Grass Lecture “Technology versus Technologist: Neurodiagnostics in the Age of Artificial Intelligence” <i>Katherine Noe, MD, PhD</i>					
9:00 – 9:30 a.m.	3D Localization Methods for Intracranial Electrodes <i>Brian Owens, R. EEG/EP T., CNIM</i>	Stimulation in IONM - Pertinent Considerations <i>Brett Netherton, CNIM, FASNM, FASET, MS</i>		Applying the ACNS Guidelines to Somatosensory Evoked Potential Practice <i>Clare Gale, R. EEG/EP T., CNIM, FASNM, FASET, BS</i>	Putting It All Together: Structure, Function and the EEG <i>Mark Stecker, MD, PhD</i>	
9:30 - 10:00 a.m.	Surgery for Musicogenic Epilepsy <i>Marion Zakrzewski, R. EEG T., R.NCS.T., RPSGT</i>					
10:00 - 10:45 a.m.	Break in Exhibit Hall with Poster Viewing					
10:45 – 11:40 a.m.	The Texas Experience: Overview of Licensure Efforts in the Lone Star State. ASET Government Advocacy Committee Presentation <i>Cathy Boldery, R. EEG/EP T., CNIM, CLTM, RPSGT, CCT, FASET; Craig Schweitzer, CNIM, BA</i>	Deep Brain Stimulation Surgery: Current & Future Considerations <i>Mark Lyons, MD</i>		Current Clinical Applications of EPs <i>Colin Bamford, MD</i>	EEG Case Studies - Wrong Diagnosis <i>Nikesh I. Ardeszna, MD, MS</i>	
11:45 a.m. – 1:00 p.m.	Awards Ceremony Luncheon					
1:00 – 1:30 p.m.	Employment Trends in Neurodiagnostic Technologies – ASET Research Committee <i>Christine Blodgett, R. EEG/EP T., CLTM, FASET, MA; Brian Galdis, R. EEG T., CLTM, BS; Jie Zhang, R. EEG/EP T., CNIM, CLTM, FASET, BS</i>	1:00 – 1:45 p.m.	IONM Case Studies <i>Mark Ross, MD</i>	BAEPs in the Clinical Setting <i>Cynthia Russel, R. EEG/EP T., CNIM, BS</i>	EEG Olympics: Interactive Quiz <i>Emma Bryden-Brown, R. EEG T., B. Med Sci</i>	
1:30 – 2:00 p.m.	The EpiFinder App: A Clinical Decision Support Tool for Neurology <i>Robert Yao, MD, PhD</i>				Autoimmune Epilepsy <i>Jay Varma, MD</i>	
2:00 - 2:30 p.m.	Creating Quality Assessment in EEG and cEEG for Improved Technical Excellence <i>Brian Galdis, R. EEG T., CLTM, BS</i>	1:45 - 2:30 p.m.	Evidence-Based Guideline Update for IONM Spinal Monitoring with SSEPs and TcMEPs <i>Jaime López, MD</i>	Visual Evoked Potentials: Overview, Summary, and Practical Application <i>Denise Bates, R. EP T., CNIM, MBA/DHAc</i>		
2:30 - 3:15 p.m.	Break in the Exhibit Hall with Poster Viewing/Silent Auction Close-out					
3:15 - 3:45 p.m.	The Global Organization of Health Education: Bringing NDT Education to Developing Nations <i>Teguo Djoyum Daniel, R. EEG T., BS</i>	3:15 – 4:00 p.m.	Communication in IONM <i>Iryna Muzyka, MD</i>	Hands-On EP Workshop <i>EP Faculty</i>	3:15 - 4:00 p.m.	Ambulatory EEG Update <i>Christine Blodgett, R. EEG/EP T., CLTM, FASET, MA</i>
3:45 – 4:15 p.m.	Job Satisfaction <i>Tabitha Althoff, R. EEG T., RPSGT, RST, BS-NDSS, AAS-END</i>	4:00 – 4:45 p.m.	The Neurophysiologist’s Perspective of Anesthesia During Procedures with IONM <i>Jay Shiels, PhD, D.ABNM, FASNM, FACNS</i>		4:00 – 4:45 p.m.	Sudden Death in Epilepsy <i>Evan Sandok, MD</i>
4:15 – 4:45 p.m.	Developments in Credentialing and Accreditation: ABRET Update <i>Erik Padilla, R. EEG/EP T., CNIM, CLTM, MBA</i>					
5:00 – 6:30 p.m.	Sundown Seminars (ticketed event) - \$30					
8:00 - 10:00 p.m.	ASET’s Got Talent - Free Social Event					

SCHEDULE OF EVENTS

SATURDAY, AUGUST 12

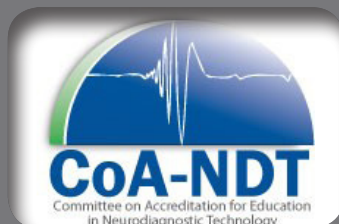
	Course Director: Kathy Johnson, R. EEG/EP T., RPSGT, RST, FASET	Course Director: Sara Batson, R. EEG/EP T., CNIM, CLTM, BS	Course Director: Jeannette Garcia, R. EEG T.	Course Director: Julie Peterson, R. EEG/EP T., CLTM
	Professional Development	Advanced IONM	Pediatric Neurodiagnostics	Updates in ICU Monitoring
8:00 – 9:00 a.m.	Plenary Session: Kathleen Mears Memorial Lecture “Consolidation in Your Health System: Everything Changes But the Need for Patient Care” Judy Ahn-Ewing, R. EEG/EP T., CNIM, CLTM, FASET, BA			
9:00 – 10:00 a.m.	Where is Waldo the Neurodiagnostic Technologist? Panel Discussion - Alternative Job Settings Christine Blodgett, R. EEG/EP T., CLTM, FASET, MA Connie Kubiak, R. EEG/EP T., CNIM, CLTM, FASET Adam Kornegay, R. EP T., CNIM, FASET, LPN, MBA	Electrons and Neurons - Brain Monitoring During and After Surgery Richard Zimmerman, MD	Pediatric Epilepsy Syndromes Jennifer Vierkant, R. EEG/EP T., CLTM	ICU EEG Record Review Nikesh I. Ardeshta, MD, MS
10:00 – 10:20 a.m.	Break			
10:20 – 11:15 a.m.	Searching the History and Mystery of Medical Terms Kate Lear, R. EEG T.	Brain Mapping in the OR Jeffrey Gertsch, MD	Rubber Ducks, Pinwheels & Video Sedation – Tips, Techniques and Knowledge Required for Pediatric EEG Petra Davidson, R. EEG/EP T., FASET, BS	The Value of Quantitative EEG in the ICU Asim Haque, MD
11:15 a.m. – noon	On the Lookout for Bugs: Infection Prevention in the Neurodiagnostic Lab Jitka Janecek, BSN, RN, CNIM, R. EEG/EP T., R.NCS.T., RPSGT		The Prognostic Value of EEG and cEEG in the Neonate Asim Shahid, MD	What Does the Doc Need From You in the ICU Joseph Drazkowski, MD, R. EEG/EP T.
Noon – 1:00 p.m.	Interest Section Lunch			
1:00 – 1:45 p.m.	Finding the Value in Value-Based Purchasing Kathryn Hansen, R. EEG T., BS, CPC, CPMA	IONM of Oculomotor Nerves (Cranial Nerves 3, 4, & 6) and Brainstem Motor Mapping Jaime López, MD	Pediatric Skin Safety Program Angela Villa, R. EEG T.	Target Temperature Management with EEG Sabrina Galloway, R. EEG/EP T., CNIM, CLTM, FASET, BS
1:45 – 2:30 p.m.	Exploring the Impact on EEG in a Connected World Simon Griffin, BSC	IONM in Complex Cranial Surgery Bernard Bendok, MD	Pediatric Polysomnography with Videotelemetry for Seizure Assessment Courtney Hinrichs, RPSGT	Status Epilepticus David Treiman, MD
2:35 – 4:05 p.m.	Plenary Session: 2017 ASET Symposium “Skills Summit” Panel Discussion			
4:05 - 4:15 p.m.	Closing Ceremony			



PRE-CONFERENCE SESSION

Double Feature: Curriculum Mapping and the ****NEW**** NDT Standards and Guidelines

WEDNESDAY, AUGUST 09, 2017
1:00 - 5:00 p.m.



Hosted by the Committee on Accreditation for
Education in Neurodiagnostic Technology (CoA-NDT)

Participants will explore the concept of curriculum mapping, and learn how this activity can be a vital component of curriculum development, evaluation, and revision. In addition, participants will learn about the changes in the NDT Standards and Guidelines, which CoA-NDT anticipates will be effective in the fall of 2018.

Objectives: Upon completion of this workshop, participants will:

1. Define "curriculum mapping"
2. Using a syllabus and the CoA-NDT mandated curriculum, complete curriculum mapping for one or more curriculum areas
3. Identify changes in the NDT Standards
4. Identify strategies for the program to demonstrate compliance with the revised Standards

To register for this FREE session through the CoA-NDT visit: www.surveymonkey.com/r/WHNCSCJ

Presenters:

Elizabeth Meng, R. EEG/EP T., FASET, BA
and Jackie L. Long-Goding, PhD, RRT-NPS,
FAARC

PLENARY SESSIONS

THURSDAY, AUGUST 10, 2017

LEWIS KULL MEMORIAL KEYNOTE ADDRESS "The Bright Future of the Neurodiagnostic Profession" Amar Mann, MA

ASET has a long history of working with the Bureau of Labor and Statistics (BLS) to ensure that the job listing for Neurodiagnostic Technology in the BLS database is up-to-date and accurate. The BLS is an agency of the Department of Labor that collects, processes, analyzes, and disseminates statistical data on the conditions of the overall economy. It is essential that our unique job listing reflects the anticipated increase in demand for highly skilled neurodiagnostic professionals, portrays our diverse work environments and salary range and, most importantly, is easy to find in a search of the BLS database.



Amar Mann, MA

- What are the nationwide trends for neurodiagnostic technologists in the workforce? What are the geographic and job category growth trends for our field?
- How are the Standard Occupational Codes for jobs established, and why is it important for ASET to be a part of the process?
- What does our job listing look like in the BLS O*NET database?
- What is the value of the BLS listing in relation to Medicare Reimbursement?

You won't want to miss this insightful presentation about the future of the Neurodiagnostic profession!

Biographical Sketch

Amar Mann is the Branch Chief and Senior Economist for the U.S. Bureau of Labor Statistics (BLS) West Region Office. Mr. Mann holds a B.A. degree in Economics (Yale University) and a M.A. degree in Energy and Resources (University of California, Berkeley). He has more than a decade of experience working in the broad field of labor economics and statistics. In his current role at BLS, he oversees the Economic Analysis and Information division of the BLS in San Francisco, where he helps to disseminate data through reports, articles, and the BLS website. He has authored numerous scholarly articles on trends in the high-tech and temporary help services industries. Mr. Mann has also served as a frequent media spokesperson on labor and economic data.

The Keynote Address is sponsored in perpetuity by
ABRET in memory of Lewis Kull.



FRIDAY, AUGUST 11, 2017

ELLEN GRASS LECTURE "Technology versus Technologist: Neurodiagnostics in the Age of Artificial Intelligence" Katherine Noe, MD, PhD

The computer era has transformed both the way we work and type of work we do, particularly growing the need for highly skilled and trained workers. This has certainly been the case in the field of clinical neurophysiology. Recent decades have seen advances in digital technology leading to marked expansion in both the spectrum and overall use of neurodiagnostic testing. Procedures like long-term video EEG monitoring that are now common were not feasible until technical advances allowed the required data acquisition and storage. Growth in neurophysiologic testing has also meant greater need for qualified neurodiagnostic technologists, with demand generally outpacing the supply. While computer technology has generated new areas of work, it has also eliminated the need for human workers in some fields and rendered others entirely obsolete. Highly complex, creative work, such as that performed by the neurodiagnostic technologist, has traditionally been thought impossible to mechanize. However, advances in artificial intelligence now allow computers to complete tasks as challenging as driving a car in traffic. Are neurodiagnostic technologists then threatened by future technological unemployment? Current examples of computer algorithms used in clinical neurophysiology demonstrate a role in assisting, but not yet replacing, the physician and technologist. The lessons of history suggest the near future will see continued evolution of the field, most likely with an increased need for highly skilled technologists to ensure continued access to safe and high quality neurodiagnostic services.



Katherine Noe,
MD, PhD

Biographical Sketch

Katherine Noe, MD, PhD, is an Associate Professor of Neurology and Medical Director of the Epilepsy Monitoring Unit and EEG Laboratory at the Mayo Clinic Arizona. After neurology residency training at Baylor College of Medicine, Dr. Noe completed fellowship training in clinical neurophysiology and epilepsy at the Mayo Clinic in Rochester, Minnesota. Her clinical practice involves medical and surgical care of adults with epilepsy. Dr. Noe has specific research interests in improving quality and safety in the care of persons with epilepsy.

PLENARY SESSIONS CONTINUED

SATURDAY, AUGUST 12, 2017

KATHLEEN MEARS MEMORIAL LECTURE

"Consolidation in Your Health System: Everything Changes but the Need for Patient Care"

Judy Ahn-Ewing, R. EEG/EP T., CNIM, CLTM, FASET, BA

The landscape of healthcare has changed dramatically in recent years, and the impact has affected neurodiagnostic professionals at all levels: staff technologists, leaders, contract providers for IONM and other modalities, educators and vendors. Community hospitals have been replaced by mergers, creating mega-health care systems with more centralized services, driving changes in staffing and purchasing models. The impact of healthcare workforce shortages and limited financial resources influence the way our jobs are structured. Judy has taken a proactive leadership role and has been on the front line of lab management throughout her career. She's had system responsibilities in newly-merged health systems, and has developed strategies for navigating and simplifying the complex managerial structures that result. In this timely presentation, she will address such issues as communication



Judy Ahn-Ewing,
R. EEG/EP T.,
CNIM, CLTM,
FASET, BA

- up, down, and sideways, the question of who has decision-making power when it comes to such issues as capital acquisitions and staffing, and the essential question: while providing quality care for patients, how do we survive and thrive in the new healthcare environment?

Biographical Sketch

Judy Ahn-Ewing is the Director of the Neuroscience Service Line at Ascension Health Care, St. John Providence Hospital, in Detroit, Michigan. Over the years she has worked in multiple leadership roles within the Neurosciences, including Neurodiagnostics, with increasing scope of responsibility. She obtained her Bachelor's Degree in Health Policy Studies at the University of Michigan. She is Past-President of ABRET and ASET, and has served on the Epilepsy Foundation Professional Advisory Board. She is very active with ASET, serving as faculty for the Leadership Academy, and serving on two committees: the ASET Standards & Practice Committee and the ASET Licensure Collaborative Task Force.

2017 ASET SYMPOSIUM

"Skills Summit"

Cathy Bolder, R. EEG/EP T., CNIM, CLTM, RPSGT, CCT, FASET; Joseph Drazkowski, MD, R. EEG/EP T.; Sabrina Galloway, R. EEG/EP T., CNIM, CLTM, FASET, BS; Patricia Trudeau, R. EEG T., CLTM (representing ABRET)

The question posed in this symposium is: What skills do technologists need for the future? Panelists will include a physician, a technologist working in an advanced practice in IONM and ICU Monitoring, and a member of the ABRET committee working on a new certification exam for "Data Analyst." A dynamic discussion involving the audience will explore expanded roles, new skills and challenges, scope of practice, methods for increasing skills for our profession and what skills technologists will need in the future.

POSTER SESSIONS

THURSDAY, AUGUST 10

10:15 - 11:00 a.m.

3:00 - 3:45 p.m.

FRIDAY, AUGUST 11

10:00 - 10:45 a.m.

2:30 - 3:15 p.m.

ASET poster sessions visually present information on a variety of topics - from an original study or research, to evaluation of a method, device or protocol, to offering a report on an uncommon clinical case. Poster authors will be on hand to discuss their findings or data with attendees in an informal venue.



- **The Use of Subtemporal Electrode Chains and their Contribution to Pre-Surgical Evaluation**
Crystal Keller, R. EEG T., CLTM, BA; Dawn McNeill, R. EEG T., AS; Jill T. Piper, R. EEG T., BS; Saurabh R. Sinha, MD, PhD

- **10-10: The Non-invasive Approach**
Liana Rusu, R. EEG T., CLTM; Robert Knowlton, MD, MSPH

- **Effective Techniques in the Application of EEG Electrodes for Children with Autism Spectrum Disorder**
Tara Masterson, R. EEG T.; Kristin Diezel, MBA, CCL

- **Direct Brainstem Somatosensory Evoked Potentials (SSEP) for Vascular Malformations**
Scheherazade Le, MD; Carmen Malvestio, R. EEG/EP T., CNIM, BA; Jacqueline Varga; Gary Steinberg, MD, PhD; Leslie Lee, MD; Viet Nguyen, MD; S. Charles Cho, MD; Jaime López, MD

- **Timing of Seizure-associated Oxygen Desaturation**
Brian J. Galdis, R. EEG T., CLTM, BS; Andrew Smith, BS; Mohamad Ayman Haykal, MD; David Burdette, MD

- **The Incidence of Skin Breakdown during At-home Ambulatory EEG Monitoring**
Christine Blodgett, R. EEG/EP T., CLTM, FASET, MA; Sharyn Katz, R. EEG T., FASET; Kelly Radka, RN; Cory Tyler, R. EEG T.

- **Changes in the EEG Spectrum During Neurofeedback Training in Children with ADHD**
Natalia Ievpak; Iliya Kuznetsov; Oksana Rakovets; Olga Abramchuk; Tetyana Kachynska; Ivanna Marchuk

- **Reduction in Skin Breakdown Associated with Continuous EEG (cEEG) Monitoring Using a Novel Electrode Technique**
John Crawford, R. EEG/EP T., R.NCS.T., RPSGT, CLTM; Jean E. Cibula, MD

- **Use of High Frequency Oscillations (HFOs) On Epileptic-Surgical Pediatric Patients: A Case Report**

Jimmy Nguyen, R. EEG T., CLTM; Conrad Szeliga, R. EEG T., CLTM; Maria Garcia Roca, MD MSc; Richard Le, R. EEG T.; Patrick Wilson, R. EEG T.; Hiroki Nariai, MD; Raman Sankar, MD, PhD; Jason Lerner, MD; Joyce Matsumoto, MD; Joyce Y. Wu, MD

- **Use of Cannabinol (CBD) and Tetrahydrocannabinol (THC) Brings Relief to Patient with Dravet's Syndrome**
Alyssum Phillips; Edward Maa, MD

- **Artifacts Found in EMU and on Bedside EEG**
Kimberly Vaughn, R. EEG T.

- **Linked Quadri-Polar TcMEP (LQP-TcMEP) Technique during a Scoliosis Procedure: A Case Report**
Ernesto Lima, MD, D.ABNM, CNIM; Lisa Mueller, DPT; Bernard Cohen, PhD, FASNM, FACNS

- **Low Threshold Linked Quadri-Polar (LQP) TcMEP during Left Middle Cerebral Artery Aneurysm Clipping: A Case Report**
Ernesto Lima, MD, D.ABNM, CNIM; Lisa Mueller, DPT; Bernard Cohen, PhD, FASNM, FACNS

- **Leptomeningeal Carcinomatosis (LC) in a Patient with Metastatic Prostate Cancer: An Uncommon Cause of Altered Mental Status**
Ahsan Wahab, MD; Siddique Chaudhary, MD; Sandeep Grewal, MD; Susan Smith, MD

- **What Are You Breathing? Long-Term Health Benefits of Ibond vs. Collodion**
Tanya Wolf, MA

SESSION DESCRIPTIONS

THURSDAY, AUGUST 10, 2017

PLENARY SESSIONS & PLATFORM PRESENTATIONS

LEWIS KULL MEMORIAL KEYNOTE ADDRESS

“The Bright Future of the Neurodiagnostic Profession”

Amar Mann, MA

Description on page 6.

Evaluation of Femoral Nerve Monitoring Data in Far Lateral Transposas Lumbar Spine Surgery

Jon Block, DC, CNIM

The Lateral Lumbar Interbody Discectomy & Fusion (LLIF) surgical procedure has grown in popularity due to the many advantages this approach offers over more traditional surgical approaches. Potential complications include injury to the lumbar plexus, bowel, and vasculature with injuries to the lumbar plexus being the most common. Multiple investigators have reported promising results from various techniques aimed at monitoring the function of the lumbar plexus elements with attention on the femoral nerve. Nonetheless, there are still no well-established guidelines for performing or interpreting femoral nerve neuromonitoring for LLIFs. There are multiple factors that can affect the quality of the acquired data and thus, the utility of the neuromonitoring can vary considerably from case to case. The authors recommend a standardized format of reporting utilizing a grading scale to describe the quality of the neuromonitoring data to equip surgeons with the relevant information required for effective intraoperative decision making.

A Novel Approach for the Intraoperative Detection of C5 Nerve Root Palsies

Justin W. Silverstein, DHSc, CNIM, R. EP T., R.NCS.T., CNCT, NCT-C

C5 neuropraxia is a known, poorly understood complication of cervical spine surgery and has a reported incidence as high as 30% in some studies. Weakness of the deltoid and bicep muscles present immediately postoperatively or in a delayed fashion. The exact etiology remains elusive and controversy regarding the efficacy and utility of neuromonitoring for intraoperative detection of these injuries exist. We present a novel paradigm for monitoring C5 nerve root palsies by evaluating motor evoked potential recordings (MEP) and electromyographic recordings (EMG) from the three heads of the deltoid muscle along with standard MEP/EMG target muscle recordings contemporaneously. Relevant anatomy, potential mechanisms of injury, and general difficulty obtaining proximal MEP recordings were the impetus for this study.

The Threat is Real: Stories of Encroachment and Inadequate Patient Care: ASET Government Advocacy Committee Presentation

Roberta Esfandiari, R. EEG T.; Kristin Neel-Roberts, R. EEG/EP T., AS

Present and imminent threats to our Scope of Practice abound. Neurodiagnostic technologists have lost their jobs to non-credentialed and inexperienced replacements as hospitals and clinics struggle to cut cost. The field is being usurped by others and we are being deemed expendable to do what we have chosen, studied, and trained to do. Properly educated and trained neurodiagnostic technologists provide the best patient care for the patients we serve. Neurodiagnostic technologists will share stories of how other Allied Health professions are encroaching on our Scope of Practice and how patients have received inadequate care from health care providers not educated and trained in the proper way to conduct neurodiagnostic procedures. Having a license specific to neurodiagnostics is the only way to protect our jobs and ensure quality testing for our patients. To protect our Scope of Practice and the patients we serve, we need to come together to support the enactment of legislation requiring a professional license to perform neurodiagnostic procedures.

Benefit of IONM in a Pediatric Patient with Spinal Dysmorphism, Split Cord Malformation, and Scoliosis

Faisal Jahangiri, MD, CNIM, D.ABNM, FASNM

This presentation is a retrospective analysis of a pediatric patient who underwent twelve operations for the correction of scoliosis, split cord, and untethering of the spinal cord. A multimodality IONM protocol including SSEP, TcMEP and EMG was utilized during the last six procedures. At age six (procedure #7) a vertical expandable prosthetic titanium rib (VEPTR) expansion was performed with loss and recovery of lower MEPs. The postoperative MRI showed partial split cord malformation with retethering of the spinal cord. Following that, the patient underwent surgery for the repair of the split cord malformation and release of tethered spinal cord with IONM. After laminectomy, an intracanal bone spur was found. The cartilage band was completely removed. The cord was split. All arachnoid and adhesions in between the cord and the dura were removed. Then, the filum terminale was isolated utilizing 1.0 mA triggered EMG. Utilization of IONM for this patient was extremely helpful. Sudden loss of TcMEP and SSEP resulted in cancellation of the procedure and MRI showed a thick remnant attached to the spinal cord. If the procedure was performed without IONM, the underlying pathology could have been missed resulting in paraplegia.

Could Improvement in Evoked Potentials During Craniovertebral Decompression in Patients with Arnold Chiari Malformation Type II Obviate the Need for Duraplasty? Joshua Castle, R. EEG/EP T., CNIM

A posterior fossa decompression for Chiari malformation is one of the pediatric neurosurgical procedures that benefits from IONM. Posterior fossa decompression for Arnold Chiari type II malformation (ACM-II) is the standard surgical technique applied in all cases. This procedure is often supplemented by dural patch grafting (duraplasty). Though less common, patients with more severe ACM-II characteristically have displacement of the medulla, fourth ventricle, and cerebellum through the foramen magnum likely due to small posterior fossa, which is usually accompanied by myelomeningocele. Pediatric neurosurgeons routinely perform a ventriculoperitoneal shunt prior to craniovertebral decompression for symptomatic patients. Controversy exists regarding the extent of decompression and need for duraplasty. We report two cases where there was predominant improvement in IONM signals during bony decompression, which lead to modifying the course of the surgical decision for the duraplasty. Both the patients had good postoperative clinical recovery.

A Checklist for Responding to Intraoperative Neuromonitoring Changes

Rebecca Rendahl, R. EEG T., CNIM

When changes occur in surgery, it is very important that staff understand their role in responding because any changes can lead to permanent injury. Timely interventions are needed and different personnel have specific tasks. Our intent was to reduce role confusion and delay by implementing a checklist that assigns tasks and designates a coordinator. We used a checklist developed by Vitale et al. (2014), and added a list of instructions for implementation on the reverse side. A survey of operating room (OR) staff was done before and after our education session to assess understanding and confidence in roles. Furthermore, staff that used the checklist were asked about ease of use and perceptions about patient safety and case efficiency. Survey results found that staff are more confident of their role during IOM changes when using the checklist. Survey results also showed ease of use and a perceived increase in patient safety with no perceived decrease in case efficiency. Given the successful adoption of the checklist, we will include it in training for new hires and yearly in-service for the spine team staff.

TcMEP Neuromonitoring in Neurosurgery: Technological Advancement with Navigation Ernesto Lima, MD, D.ABNM

Routine TcMEP scalp stimulation follows the 10-20 Electrode System or slightly anterior sites, M1, M2, M3 & M4 per MacDonald [J Clin Monit Comp. 2006 Oct;20(5):347–

77]. We have developed the linked quadri-polar electrode placement which pairs two anodes against two cathodes, as M1M3 vs M2M4. This, along with advances in preoperative planning using coregistered CT/CTA/MRI sequences and intraoperative neuronavigation, allows more accurate placement of electrodes. This study focuses on the use of navigation to identify the precentral, superior, inferior frontal and central sulcus for the purposes of scalp electrode placement in intracranial surgery. Preoperative and intraoperative neuromonitoring data were collected from 10 patients undergoing intracranial surgery. Purpose-built 3-D rendering software for cortical and subcortical mapping with segmentation of critical pathways for somatosensory and motor areas was used to co-locate these anatomic regions. Use of neuronavigation allows more accurate electrode placements compared to traditional measurements, leading to a decreased overall electrical threshold required for stimulation. Use in combination with LQP-TcMEP results in lower stimulation intensities with the benefit of less patient movement.

Neuromonitoring for International Medical Missions

Jon Block, DC, CNIM

There is a growing need for volunteers skilled in surgical neuromonitoring as there are now multiple well-established charitable organizations that contribute to international medical missions that provide surgeries for children with severe spinal deformities in developing or underserved countries around the world. Skilled surgical neurophysiologists are required as the majority of the surgeries are for the treatment of severe pediatric spinal deformities that can require complex osteotomies or even vertebrectomies that place the spinal cord and nerve roots at significant risk. The missions are usually a week in duration with time divided between clinical patient evaluations, surgery, and educational efforts including formal lectures or educational spine surgery symposiums. In addition to providing life-transforming surgeries for children in need, a major emphasis is placed on educating the local surgical staff so that they are better equipped to treat their own patient population thereafter. Volunteering for an international medical mission should be considered an excellent opportunity for surgical neurophysiologists to improve their technical and clinical skills in addition to being an opportunity to contribute to helping children with severe spinal deformities that might otherwise go untreated.

Case Report: Neural Mapping Techniques for Transposas Lateral Interbody Fusion

Justin W. Silverstein, DHSc, CNIM, R. EP T., R.NCS.T., CNCT, NCT-C

Mapping of the lumbar plexus during lumbar lateral interbody fusions (LLIF) using electrical stimulation with concurrent electromyography (EMG) is advocated to detect

SESSION DESCRIPTIONS CONTINUED

the presence of neural tissue and provide estimates of the proximity of the lumbar plexus elements during surgical dilation and retraction of the psoas muscle. Common current techniques utilize a myotomal approach when choosing EMG target muscles which may not cover the lumbar plexus elements adequately. A case report is presented. Mapping of the lumbar plexus was performed using an electrified sequential dilator system and a handheld electrified monopolar stimulating probe with concurrent EMG to record responses from muscles innervated by the various elements of the lumbar plexus. In this particular case, if our mapping protocol did not include adductor muscle recordings, it is possible that deployment of the intra-discal shim could have pierced the obturator nerve. The authors believe this is an important case study that is worth attention to support the need for a lumbar plexus-based anatomical approach for mapping the lumbar plexus during LLIF procedures as opposed to a myotomal approach which is frequently advocated.

LTM/EPILEPSY

An LTM Patient Story from A-Z: First Admission to Surgery **Joseph Sirven, MD**

Dr. Sirven's work as an epileptologist at the Mayo Clinic in Phoenix includes guiding many epilepsy patients through an extensive work-up to determine the feasibility of epilepsy surgery. He will tell the story of one patient's journey from first admission to LTM through the Phase I pre-surgical workup which includes imaging studies for localization, through the Phase II workup with surgical implant of grid electrodes and functional mapping, concluding with resection surgery and the outcome for control of seizures. This session will illustrate all that is involved in the extensive surgical work-up.

Seizure Semiology **Adriana Tanner, MD**

Dr. Tanner is an attending epileptologist at Mercy Health in Grand Rapids, MI, and completed her fellowship at the Cleveland Clinic. She will provide an overview of the International Classification of Seizures with detailed analysis of the symptoms of various seizure types and how the epilepsy team, including the neurodiagnostic technologists, can categorize seizures based on clinical features.

Asystole in the LTM Lab **Laura Lehnhoff, MD**

It is not uncommon to discover cardiac findings when observing a patient during a long-term monitoring admission. An episode of asystole is a serious medical emergency. It is vital that the entire epilepsy team responds correctly and efficiently. It is also important to address the

question: is the change in cardiac function a component of the seizure or does it have another cause.

The Critically Ill LTM Patient **Amey Crepeau, MD**

Everyone who works in a LTM lab has encountered patients who are critically ill and medically unstable. Episodes of status epilepticus or other critical conditions may require that the patient be temporarily transferred to the ICU. This presentation will include tips on patient management and safety, ways to continue the LTM monitoring session in the ICU and how to determine when a patient's condition will require urgent intervention and transfer out of the epilepsy monitoring unit.

Alternative Treatments for Epilepsy **David Labiner, MD**

What can an epilepsy patient do when standard antiepileptic medications are not effective or cause significant side effects, but surgical intervention is not feasible either? Exploring alternative treatments is an option. Dr. Labiner will provide an update on alternative treatments for epilepsy, including ketogenic diet, medical marijuana and implantable devices. Dr. Labiner is the head of neurology services at the University of Arizona in Tucson. He is a strong advocate for patients with epilepsy, and is active with the American Epilepsy Society and the Epilepsy Foundation of America, as well as past president of the National Association of Epilepsy Centers. He has published articles on the social, economic and cultural aspects of epilepsy.

Stereotactic EEG **Michael Stein, MD**

Stereotactic EEG is increasingly recognized as a very successful option for assessment of seizure activity with surgically implanted electrodes. These are thin, needle-like electrodes that are implanted stereotactically, i.e., with the help of a stereotactic frame using pre-calculated coordinates that guarantee accurate targeting of specific deep regions in the brain. It is a less invasive procedure than implanting a large array of grid electrodes and yet it does provide significant diagnostic information when patients are carefully selected for this option. Dr. Stein will discuss the implant process, show examples of recordings, and present case histories to demonstrate the effective use of stereotactic EEG.

NERVE CONDUCTION STUDIES

NCS Techniques and Insider Tips **Holli Horak, MD**

Dr. Horak specializes in neuromuscular medicine at the University of Arizona in Tucson, where she also teaches NCS and EMG to residents and fellows. She will provide an overview of NCS techniques and will offer helpful tips to

obtain the best studies possible, find the optimal stimulation points and use instrument settings to the best advantage.

Brachial Plexus NCS **Jim Lewis, R.NCS.T., CNCT**

While nerve conduction studies of the brachial plexus are commonly requested, they always present unique challenges and require a good understanding of the complex anatomy of the nerves serving this area. Jim Lewis has been training technologists in nerve conduction techniques for many years and will share his expertise to make this procedure easier to perform with better results.

Everything You Need to Know about Blink Reflex Studies

Mark Ryland, R. EP T., RPSGT, R.NCS.T., CNCT, FASET, Au.D.

The blink reflex study is often considered an advanced technique and has unique challenges. Dr. Ryland teaches in the neurodiagnostic technology program at Cuyahoga Community College and is well known for his dynamic teaching style. He will share his expertise and explain everything you need to know to perform a blink reflex study.

NCS for the Femoral, Lateral Femoral, Cutaneous & Obturator Nerve

Jerry Morris, R.NCS.T., CNCT, FASET, MS

If asked to name three of the most difficult nerve conduction studies to perform, many technologists might list these three nerves! Jerry's presentation will include the anatomy of these nerves, how to access stimulation points and you'll be able to perform these tricky studies like an expert! Jerry is an enthusiastic teacher, and has received the Theda Sannit Outstanding Educator Award, so you won't want to miss this lively discussion.

Hands-On NCS Workshop

Jerry Morris, R.NCS.T., CNCT, FASET, MS; Jim Lewis, R. NCS.T., CNCT, Joyce Riedel, R. EEG T., CNIM, R.NCS.T., BA, Judy LonCar-Milkovich, R.NCS.T.

What would a Nerve Conduction Course be without an opportunity to practice hands-on skills? We will have three work-stations so that everyone who wants to try a nerve conduction study will have the opportunity to do so with guidance from our expert faculty.

AUTONOMIC MINI-COURSE

The Autonomic Nervous System and Function and Disorders of the ANS **Brent Goodman, MD**

Neurodiagnostic technologists are increasingly involved in testing for autonomic nervous system disorders and ABRET has developed a new certification exam in this specialty. So whether you are new to this subject, or

seeking continuing education, this presentation will provide the foundation for additional learning. Dr. Goodman will explain how the autonomic nervous system functions and how disorders of the ANS can be diagnosed with a variety of special tests.

Autonomic Workshop Part I: Tour of the Equipment and Demonstration **Stephanie Weid, R. EEG T., CAP**

This introduction will provide a tour of autonomic nervous system testing equipment. Of course, some equipment is not mobile enough to bring to a workshop, so Stephanie will include a virtual tour of the full autonomic lab.

Autonomic Workshop Part II - Hands on Practice

Stephanie Weid, R. EEG T., CAP

We'll have some autonomic testing equipment available and we will provide the opportunity for workshop attendees to practice skills in an informal learning setting. Stephanie has passed the ABRET certification exam for autonomic nervous system testing so she can also share her insights about the process with you.

TCD MINI-COURSE

TCD Workshop Part I Introduction: Anatomy, Theory and Technique **DonaLee Davis, CNRN**

Transcranial doppler is another diagnostic tool that is increasingly performed by neurodiagnostic technologists, often in the ICU or Intraoperative neuromonitoring setting. DonaLee Davis is nationally recognized for her skills as an instructor in this specialty and she will cover the basics of blood vessel anatomy, instrumentation theory and common TCD techniques.

TCD Workshop Part II: Hands-On Workshop **DonaLee Davis, CNRN**

TCD equipment will be provided for workshop participants to learn techniques to perform the transcranial doppler studies most commonly used in neurodiagnostics.

SESSION DESCRIPTIONS CONTINUED

FRIDAY, AUGUST 11, 2017

PLENARY SESSION & PLATFORM PRESENTATIONS

ELLEN GRASS LECTURE

"Technology versus Technologist: Neurodiagnostics in the Age of Artificial Intelligence"

Katherine Noe, MD, PhD
Description on page 6.

3D Localization Methods for Intracranial Electrodes

Brian Owens, R. EEG/EP T., CNIM

In the evaluation of intracranial data, accurate localization of the implanted electrodes is important for the surgical work-up. Precise localization of electrodes allows the epileptologist to confirm or repudiate the epileptogenic zone hypothesis. We discuss three methods of 3D localization of subdural array and SEEG electrodes using commercially available software, open-source software, and neuronavigation. In our workflow, we routinely extract and mark the intracranial electrodes from postoperative CT, with preoperative MRI. We create 3D models of the electrodes with 3D cortex and attempt to integrate any functional or anatomical data, such as MEG, fMRI, DTI, lesions, etc. Open-source software is free, but may require more steps and technical skill. Commercial software is expensive, but may be more user friendly because it is designed for more specific tasks. Neuronavigation systems are widely used and available, however access to them may be restricted. Use of these methods may be limited to skilled technologists, neuroradiologists, neurosurgeons, and epileptologists, and may require multiple hours of analysis time.

Surgery for Musicogenic Epilepsy

Marion Zakrzewski, R. EEG T., R.NCS.T., RPSGT

Musicogenic Epilepsy is a rare form of reflex epilepsy in which seizures are triggered by hearing music. The type of music that triggers a seizure is patient-specific. We present a detailed case study of a 44-year-old woman with a history of pharmacoresistant complex partial seizures and secondary generalization provoked by loud music with a specific strong rhythm treated successfully with a surgical resection. We conclude that musicogenic epilepsy can have a focal origin. If seizures are not controlled by avoiding musical stimulation and using antiepileptic drugs, surgical evaluation should be performed. Surgery can result in a seizure-free outcome.

The Texas Experience: Overview of Licensure Efforts in the Lone Star State ASET Government Advocacy Committee Presentation

Cathy Boldery, R. EEG/EP T., CNIM, CLTM, RPSGT, CCT, FASET; Craig Schweitzer, CNIM, BA

For the last few years, the Texas Society for Neurodiagnostic Technology has been pursuing professional licensure legislation at the Texas State Capitol. In 2015, House Bill 2978 passed the House Public Health Committee, but did not pass the full House before the session adjourned. In 2017, TSNT worked with State Senator Bryan Hughes and State Representative Bill Zedler to introduce the Neurodiagnostic Technology Act in the Senate and the House. Senate Bill 1941 and House Bill 4023 propose to establish qualifications for and oversight of individuals who practice neurodiagnostic procedures. Come hear what happened during this year in the Texas General Assembly from those who have been on the front line of the effort to enact professional licensure legislation. Ask questions about how the process works and learn how you can benefit from the experiences they can share about the legislative process.

Employment Trends in Neurodiagnostic Technologies – ASET Research Committee

Christine Blodgett, MA, R. EEG/EP T., CLTM, FASET; Brian Galdis, R. EEG T., CLTM, BS; Jie Zhang, R. EEG/EP T., CNIM, CLTM, FASET, BS

According to a projection by the Bureau of Labor Statistics, healthcare will add the most jobs of any industry between 2014 to 2024 with as many as 33,800 openings in Neurodiagnostic Technology alone. The ASET Research Committee is tracking quarterly employment ads for jobs in the most common modalities of Neurodiagnostic Technology (i.e., EEG, EPs, PSG, IONM, NCS, and administrative-level) to determine the types of jobs available and the qualifications (education-level and credentialing) employers are seeking most. Our data review also seeks to identify cities, states, and regions where gaps lie between the number of employment openings and access to Neurodiagnostic Technology educational programs that teach and train future technologies to fill those needs. We will present the results of our employment ad review from three quarters of data (October 2016, January 2017, and April 2017) to identify important employment trends in the field of Neurodiagnostic Technology.

The EpiFinder App: A Clinical Decision Support Tool for Neurology

Robert Yao, MD, PhD

Every year, 40% of epilepsy patients go misdiagnosed for 10–15 years, leading to worsening of their condition or SUDEP and costing the healthcare system \$15.5 billion. Improved assessment standards and better training of medical professionals will lead to faster and more accurate

diagnosis. Our app software uses heuristic algorithms for definitions and standards to create confidence levels for diagnosis of epilepsies, seizures, and EEG results based on the latest ILAE recommendations. We have calibrated the algorithm in the lab, which is currently undergoing iterative improvement at Mayo Clinic. To date, we have completed validation on standardized terms for 62 known epilepsies. Expert Epileptologists have reviewed and approved the standardized terms. Our algorithm is able to identify the 20 most common epilepsies in the differential with 95% accuracy. Future use of our clinical decision support tool by physicians has the potential to reduce epilepsy misdiagnosis and improve the patient experience by providing a platform for symptom reporting and seizure tracking.

Creating Quality Assessment in EEG and cEEG for Improved Technical Excellence

Brian Galdis, R. EEG T., CLTM, BS

The necessity for high quality EEG data for proper physician interpretation and diagnosis of patient findings is well-recognized. However a standard in measuring this quality is not well defined. Our goal was to implement and analyze a quality assessment and improvement system for EEG and cEEG to evaluate technical excellence of neurodiagnostic studies resulting in improved diagnostic integrity for physician interpretation. Methods: Each study type (EEG and cEEG) was designated ten Key Performance Indicators (KPI) through established national guidelines from the American Clinical Neurophysiology Society (ACNS), ABRET, ASET and health care-specific metrics. Each KPI was determined to be equally meaningful and measurable to the specific outcome of producing high quality EEG data for improved interpretation, diagnosis, and treatment of EEG abnormalities. Our findings demonstrate that identification of specific KPI in multiple study types with continued analysis and distribution of findings to technologists produces improved technical study outcomes. By increasing the technical quality and integrity of our neurodiagnostic studies, we are providing our physician staff with the best opportunity for proper diagnosis, treatment, and overall patient care.

The Global Organization of Health Education: Bringing Neurodiagnostic Technology Education to Developing Nations

Teguo Djoyum Daniel, R. EEG T., BS

Africa is a vast continent with communities spread across thousands of square miles. There are many challenges when providing health care to these remote areas, with a transport system connecting only a handful of countries. Constant political and social instability often complicate the delivery of health care in remote areas of Africa. The need for well-trained medical personnel in Africa is staggering. Medical professionals come in and provide services for

short periods of time, but when they leave, the vacuum of trained medical specialists continues. The long-term solution requires educating medical professionals within each country. Providing neurodiagnostic education to such a diverse group of people requires cultural understanding, creativity, use of technology, and flexibility. As an African native and a neurodiagnostic technologist working in the USA, I understand the challenges and am committed to overcoming them. In this presentation, I will share my experience as the founder and president of GOHE (Global Organization of Health Education). We have begun our work to educate Neurodiagnostic Technology professionals in the developing nations with a pilot project in Ethiopia.

Job Satisfaction

Tabitha Althoff, R. EEG T., RPSGT, RST, BS-NDSS, AAS-END

In healthcare, the cost of a losing an employee expands well beyond a loss in productivity. It is a loss in services to patients who need medical attention. When one considers the cost of recruiting a qualified employee, retention is a key factor in the ability of a department to grow and prosper. Invitations to participate in an anonymous Job Satisfaction survey were sent to 180 neurodiagnostic professionals who were identified as the most active and engaged users in the Facebook forum for Neurodiagnostic professionals, "I'm an EEG tech, not a ECG tech". The survey consisted of ten multiple choice questions addressing current employment conditions, professional development, and career ambition. Demographic information of participants was not collected. Participation rate was 99%. These Job Satisfaction survey results provide feedback directly from technologists who are committed to the profession and engaged in the Neurodiagnostic Technology community, and therefore also provide quality insight for employers in the field of Neurodiagnostic Technology when developing recruitment, training, and retention strategies for their department and staff.

Developments in Credentialing and Accreditation: ABRET Update

Erik Padilla, R. EEG/EP T., CNIM, CLTM, MBA

ABRET Neurodiagnostic Credentialing & Accreditation has a 50-year history of credentialing in neurodiagnostics. This presentation will highlight recent developments and announce some future projects. ABRET offers five credentials, R. EEG T.®, R. EP T.®, CNIM®, CLTM®, CAP®, and a new certificate program, CMEG. For laboratories wanting to demonstrate high standards and competency in neurodiagnostics, accreditation programs are available, LAB-EEG, LAB-NIOM, and LAB-LTM. This presentation will cover:

- a major change in the R. EEG T. credentialing program;
- the end of lifetime credentials;
- future microcredentials;

SESSION DESCRIPTIONS CONTINUED

- the new CMEG certificate program;
- ABRET's Self-Assessment Program (ASAP);
- eligibility requirements;
- updates in laboratory accreditation;
- recertification;
- digital badges

ABRET continues to seek ways to improve the credentialing process and to encourage excellence in neurodiagnostics.

IONM FUNDAMENTALS & CURRENT TOPICS

Stimulation in IONM – Pertinent Considerations

Brett Netherton, CNIM, FASNM, FASET, MS

This is a key component of successful intraoperative neuromonitoring! The stimulation parameters, choice of devices and electrodes, location of stimulators and ground leads must all be carefully considered to provide optimal results and avoid electrode burns. Brett Netherton is widely recognized as the expert on this topic. He will discuss best practices and pitfalls of stimulation in IONM.

Deep Brain Stimulation Surgery: Current & Future Considerations

Mark Lyons, MD

The implantation of Deep Brain Stimulators for treatment of Parkinson's Disease and Tourette's Syndrome has gained recognition as an effective treatment for movement disorders. Dr. Lyons is a neurosurgeon at Mayo Clinic in Phoenix and has performed many of these implants. He will explain the implant procedure and the theory behind the treatment, and share stories of patient outcomes.

IONM Case Studies

Mark Ross, MD

Case studies are always fascinating! Dr. Ross' presentation will include a wide variety of interesting cases, incorporating various monitoring techniques to illustrate the important role of Intraoperative Neuromonitoring to prevent patient injury during various surgical procedures.

Evidence-based Guideline Update for IONM Spinal Monitoring with SSEPs and TcMEPs

Jaime López, MD
Dr. López is a nationally recognized physician expert in the field of Intraoperative neuromonitoring and has been actively involved in committee work to set standards for the practice of IONM. In this presentation he will explain the importance of using evidence based medicine when performing IONM and how this practice impacts our choices in the OR.

Communication in IONM

Iryna Muzyka, MD

Everyone will agree that effective communication in the OR is essential to ensure the best outcome for patient's undergoing surgery that has inherent risks. But sometimes it can be challenging to actually establish effective communication channels. It is vital that the entire OR team understands what we are trying to say when we alert the team to an apparent significant change seen during a monitoring session. Dr. Muzyka's discussion will provide insights in how to accomplish this goal.

The Neurophysiologist's Perspective of Anesthesia During Procedures with IONM

Jay Shiels, PhD, D.ABNM, FASNM, FACNS

Dr. Shiels is director of the Intraoperative Neuromonitoring Program at Rush Medical Center in Chicago. He is widely recognized for his expertise on the topic of anesthesia during IONM. His presentation will include all aspects of anesthesia and the effects of choice of anesthesia on waveforms monitored during IONM.

EVOKED POTENTIALS

Applying the ACNS Guidelines to Somatosensory Evoked Potential Practice

Clare Gale, R. EEG/EP T., CNIM, FASNM, FASET, BS

It is essential to follow the ACNS guidelines when performing clinical SSEPs. This presentation will provide an overview of the guidelines and Clare will offer helpful hints to help incorporate these guidelines into the daily practice of performing SSEPs.

Current Clinical Applications of EPs

Colin Bamford, MD

The use of clinical evoked potentials has changed significantly over the decades. However, they still have a valuable place in the array of neurodiagnostic modalities used to assess neurological function and aid in the diagnosis of neurological disease states. Dr. Bamford will answer the question: "How are the three Evoked Potential modalities used in Clinical practice today?"

BAEPs in the Clinical Setting

Cynthia Russel, R. EEG/EP T., CNIM, BS

Cynthia will provide an overview of the anatomy of the hearing pathway, the generators of the brainstem auditory waveforms and the recording techniques used to record BAEPs. She will include examples of normal and abnormal BAEPs and demonstrate the use of this effective tool to assess the auditory system function.

Visual Evoked Potentials: Overview, Summary, and Practical Application

Denise Bates, R. EP T., CNIM, MBA/DHAc

This presentation will include all of the basics of

performing Visual Evoked Potentials. Denise will review the structures of the visual pathway, pattern shift stimulator settings, recording parameters and options to elicit the Visual Evoked Potential. Examples of normal and abnormal VEPs will be included.

Hands-On EP Workshop

EP Course Faculty

We will have three workstations set up, one for each modality: BAEPs, VEPs and SSEPs. Workshop participants can spend as much time as they like at each station and practice hands-on skills with the assistance of the Evoked Potentials course faculty.

EEG KEY TOPICS

Putting It All Together: Structure, Function and the EEG

Mark Stecker, MD, PhD

Dr. Stecker gets rave reviews for his EEG lectures and this presentation will be a great way to start your day! Interesting EEG samples will be compared to radiologic findings and clinical correlations to highlight the connection between EEG patterns, neurological function and structural changes.

EEG Case Studies - Wrong Diagnosis

Nikesh I. Ardeshtna, MD, MS

Dr. Ardeshtna has been collecting cases which illustrate how valuable the EEG findings are when the correct diagnosis has been elusive. He will present several case histories where the patient received the wrong diagnosis until the neurodiagnostic work-up revealed the true reason for the patients' symptoms.

EEG Olympics: Interactive Quiz

Emma Bryden-Brown, R. EEG T., B. Med Sci

This learning activity will keep you awake after lunch! Go for the gold and answer as many questions as you can in this interactive EEG quiz! Emma will be a very dynamic and witty host encouraging everyone to do their best.

Autoimmune Epilepsy

Jay Varma, MD

Autoimmune epilepsy is a fairly recently recognized type of epilepsy which can present with intractable seizures. The work-up will include EEG and lab tests to check for the presence of at least one neural antibody, a search for inflammatory changes indicated in spinal fluid or on MRI, or a personal or family history of autoimmunity. Therapeutic intervention is very specific for this disorder so getting an accurate diagnosis is essential to successful treatment. When taking a patient history as part of your EEG protocol, you might be the first person to consider this as a potential diagnosis, so hearing about this disorder is very important!

Ambulatory EEG Update

Christine Blodgett, R. EEG/EP T., CLTM, FASET, MA

Ambulatory EEG continues to be a vital tool in the world of neurodiagnostics! New technology has made it easier to conduct longer recordings with options such as video recording. However, the key to a high quality study is still in the patient set-up, with securely applied electrodes, and starting with an artifact-free recording. Christine will share her insider tips as she works for an ambulatory EEG service.

Sudden Death in Epilepsy

Evan Sandok, MD

Sudden unexpected death in epilepsy (SUDEP) occurs in approximately 1 in 1000 patients with a diagnosis of epilepsy, and those with intractable seizures are at a higher risk. Dr. Sandok will explain how a SUDEP death is determined, the risk factors, and preventative measures. Case histories will be discussed. It is important for every technologist who works with epilepsy patients to be aware of this complication of epilepsy.

SATURDAY, AUGUST 12, 2017

PLENARY SESSION

KATHLEEN MEARS MEMORIAL LECTURE:

"Consolidation in Your Health System:

Everything Changes But the Need for Patient Care"

Judy Ahn-Ewing, R. EEG/EP T., CNIM, CLTM, FASET, BA
Description on page 7.

PROFESSIONAL DEVELOPMENT

Where is Waldo the Neurodiagnostic Technologist? Panel Discussion -

Alternative Job Settings

Christine Blodgett, R. EEG/EP T., CLTM, FASET, MA;
Connie Kubiak, R. EEG/EP T., CNIM, CLTM, FASET;
Adam Kornegay, R. EP T., CNIM, FASET, LPN, MBA

Have you ever wondered what it would be like to work in a different and unique job setting? Do you ever dream of switching from working in the clinical setting to follow a new career path within the field of neurophysiology? The three panelists will provide insight into very interesting options: working from home for a company, working as a traveler covering clinical services, and working for a vendor. You'll have the opportunity to ask them questions and learn about the advantages and challenges of these unique employment opportunities.

SESSION DESCRIPTIONS CONTINUED

Searching the History and Mystery of Medical Terms

Kate Lear, R. EEG T.

This is not a standard medical terminology lecture! Kate has an educational background in language and literature. She will go over the Greek and Latin word roots to help us understand neurodiagnostic and medical terms. This will be very helpful for understanding medical chart entries and will include anatomy, skull bones, pathologies and procedures. She will incorporate audience participation to develop a deeper understanding of the language, which will help technologists take better histories, write better reports, better remember the anatomy and physiology and make the medical field more accessible in general.

On the Lookout for Bugs: Infection Prevention in the Neurodiagnostic Lab

Jitka Janecek, BSN, RN, CNIM, R. EEG/EP T., R.NCS.T., RPSGT

This presentation will provide an overview of infection control practices specific to neurophysiology, addressing questions about cleaning electrodes, using supplies in the lab and will also include information about some of the latest developments for infection control with the new concern for hospital based infection with antibiotic resistant bacteria. Jitka is an ideal presenter for this topic, as she has a background in nursing, multiple neurodiagnostic credentials, and is an instructor in the Cuyahoga Community College Neurodiagnostic Technology Program.

Finding the Value in Value-Based Purchasing

Kathryn Hansen, R. EEG T., BS, CPC, CPMA
The Hospital Value-Based Purchasing (VBP) Program is a Centers for Medicare & Medicaid Services (CMS) initiative that rewards acute-care hospitals with incentive payments for the quality of care they provide to Medicare beneficiaries. Kathryn travels around the country providing training on billing and adjunct services. She has the opportunity to observe many neurodiagnostic laboratories and talk with technologists. She will share her insights about the impact of value based purchases on the financial health of the hospital and the ways in which you, as an individual working with patients, can ensure that patient satisfaction surveys reflect a positive experience.

Exploring the Impact on EEG in a Connected World

Simon Griffin, BSC

Simon Griffin is the CEO of Lifelines, a supplier of neurodiagnostic equipment. He has a special interest in ensuring that HIPPA regulations for patient privacy are preserved in the new world of cyber-technology. He will demonstrate the ways in which patient privacy may be compromised when using the "cloud" to access neurodiagnostic data. He will explain measures that you

can take to prevent accidental or malicious sharing of patient information.

ADVANCED IONM

Electrons and Neurons - Brain Monitoring During and After Surgery

Richard Zimmerman, MD

This will be a very interesting discussion about cranial surgery IONM from the perspective of the neurosurgeon. Dr. Zimmerman has a very busy practice at the Mayo Clinic in Phoenix, where he works closely with the Comprehensive Epilepsy Program, performing surgical resections and implanting RNS and VNS devices. In addition, he is an expert at microsurgical treatment for aneurysms and AV malformations as well as treatment of brain tumors with laser ablation. Dr. Zimmerman is passionate about education and chairs the Mayo Clinic Education Committee.

Brain Mapping in the OR

Jeffrey Gertsch, MD

Brain Mapping in the OR is one of the most challenging procedures and the entire surgical team and IONM team must work collaboratively to ensure accurate assessment of brain function and successful resection of brain tissue and preservation of essential functions. Each case presents unique challenges and requires an in-depth understanding of functional brain anatomy. Mapping can be done with the patient under anesthesia in most cases, but can be done with the patient awake for language testing. Dr. Gertsch will cover this topic in depth in an extended session.

IONM of Oculomotor Nerves (Cranial Nerves 3, 4, & 6) and Brainstem Motor Mapping

Jaime López, MD

The assessment of cranial nerve function and mapping of brainstem motor functions requires multi-modality intra-operative neuro monitoring, a complicated procedure. This presentation will provide an overview of the most effective monitoring techniques. Dr. López is a neurophysiologist at Stanford University. His expertise is recognized internationally and he is very active with national committee work and has a long list of published scientific articles.

IONM in Complex Cranial Surgery

Bernard Bendok, MD

This fascinating day of discussions focusing on IONM for brain surgery will end with an in-depth discussion about the most difficult cases and state of the art methods for surgical treatment. Case studies will illustrate the latest options and provide a glimpse into the future of neurosurgery and neuromonitoring. Dr. Bendok practices at the Mayo Clinic in Phoenix and is passionate about his research to promote innovation of surgical methods and devices, clinical trials, mathematical modeling of neurovascular diseases, and patient-specific simulation.

PEDIATRIC NEURODIAGNOSTICS

Pediatric Epilepsy Syndromes

Jennifer Vierkant, R. EEG/EP T., CLTM

Epilepsy syndromes are defined as a cluster of signs and symptoms that are seen the pediatric patient population which include specific seizure types, often more than one, accompanied by other features: structural abnormalities, developmental delay or other neurological disorders and a predicted prognosis. The emergence of such syndromes may occur at birth or later in childhood. This presentation will include a discussion of the clinical symptoms of these disorders and the typical EEG findings.

Rubber Ducks, Pinwheels & Video Sedation – Tips, Techniques and Knowledge Required for Pediatric EEG

Petra Davidson, R. EEG/EP T., FASET, BS

In this dynamic discussion, Petra will explain how to set up, run and evaluate the pediatric EEG. While some techs may work exclusively with children other techs rarely see babies or children as patients. Keeping the skills up isn't always easy, but it is a necessity. It is pertinent that the community Neurodiagnostic Technologist knows how to handle the pediatric EEG. Both the community tech and the pediatric hospital tech need to know both normal and abnormal pediatric EEG patterns and recognize when immediate communication or action is needed. New skills and updated techniques will improve the EEG recording and provide the best patient care possible. This presentation includes a cheat sheet on EEG findings per age group, techniques to improve cooperation and knowledge on where to find additional quality information.

The Prognostic Value of EEG and cEEG in the Neonate

Asim Shahid, MD

Dr. Shahid comes to us from the University Hospital, Rainbow Babies & Children's Hospital in Cleveland, and his presentations are always a crowd-pleaser! He will demonstrate the ways in which EEG and continuous EEG can be used to aid in the treatment and prognosis of neurological injury and seizures in the neonate. He will include case histories to illustrate the importance of the EEG as a predictive tool when recorded over time.

Pediatric Skin Safety Program

Angela Villa, R. EEG T.

Everyone will agree that preventing electrode-related injury is important for all age groups, it is most important that we address this issue for our pediatric patient population since infants and young children have delicate skin which is more prone to injury. Angela works at the Children's Hospital of Los Angeles where they have implemented a very successful skin safety program. She will explain their program and insights, providing helpful hints to ensure that

young patients will not experience abrasions or injury at electrode sites.

Pediatric Polysomnography with Videotelemetry for Seizure Assessment

Courtney Hinrichs, RPSGT

There is a trend in pediatric sleep medicine to include full lead placement and videotelemetry when recording a PSG in young patients. The PSG may be the first diagnostic test ordered for some patients and is helpful to differentiate between seizures and parasomnias. The PSG and video can be used to assess and quantify seizure activity in young patients. Angela works in the pediatric sleep lab at UCLA Children's Hospital and will include some case studies in which the PSG provided valuable insight.

UPDATES IN ICU MONITORING

ICU EEG Record Review

Nikesh I. Ardeshta, MD, MS

Dr. Ardeshta is back by popular demand! Everyone loves his dynamic presentations and audience interaction! He has compiled a diverse collection of EEG samples from the ICU and will share these samples with you. The EEG patterns and artifacts will include typical findings and really unique cases in the critically ill patient population.

The Value of Quantitative EEG in the ICU

Asim Haque, MD

Dr. Haque will explain Fourier transforms and other manipulations of the raw EEG signal such as CSA, rhythmic detection, alpha-delta ratios, and power spectra which are features of the Quantitative EEG. He will explain how EEG technologists, nurses, and monitoring techs can use these tools to help detect seizures in real-time and thus dramatically speed up potential treatment instead of having to wait until the next morning. He will include several examples of effective utilization such as: fingerprints of various seizures, detecting delayed cerebral ischemia (DCI) in subarachnoid hemorrhage and detection of non-ictally originating morbidity in patients, which QEEG can identify and potentially help prevent.

What Does the Doc Need From You in the ICU

Joseph Drazkowski, MD, R. EEG/EP T.

Dr. Drazkowski always takes pride in his beginnings in the field of neurology as a registered EEG and Evoked Potentials technologist. He is now an epileptologist at the Mayo Clinic in Phoenix, so he will be the ideal person to answer this question! He is a staunch advocate of neurodiagnostic technologists and their role as valuable members of the neurology team. He will talk about the ways in which we can make interpretation of the sometimes complex EEG recording in the ICU easier by documenting details, resolving artifacts, and preparing data for interpretation.

SESSION DESCRIPTIONS CONTINUED

Target Temperature Management with EEG

Sabrina Galloway, R. EEG/EP T., CNIM, CLTM, FASET, BS
Target temperature monitoring with EEG is an effective technique as part of the therapeutic hypothermia protocol. This protocol is used to treat cardiac arrest patients and improve the chances of restoring full neurological function. EEG Monitoring is often a part of the protocol since seizures may occur especially during induction or rewarming. Since sedation is used for patient comfort and neuromuscular blocks may be used to prevent shivering, it is difficult to know if seizures are occurring without the help of EEG monitoring. Sabrina has specialized in ICU EEG for many years and is an expert in this area of neurophysiology.

Status Epilepticus

David Treiman, MD

While status epilepticus may be observed anywhere: the EEG lab, the ER or may begin at home, patients in status are rapidly admitted to the ICU where proper management of the seizures will improve the chances of controlling seizures and preventing serious neurological complications. Continuous EEG monitoring is essential when the patient treatment includes a medically induced coma. Dr. Treiman will discuss features of status epilepticus, treatment options and the use of cEEG in the ICU in cases of status epilepticus.

PLENARY SESSIONS

2017 ASET SYMPOSIUM:

“Skills Summit”

Panelists: Cathy Boldery, R. EEG/EP T., CNIM, CLTM, CCT, RPSGT, FASET; Joseph Draskowski, MD, R. EEG/EP T.; Sabrina Galloway, R. EEG/EP T., CNIM, CLTM, FASET, BS; Patricia Trudeau, R. EEG T., CLTM (representing ABRET)

Description on page 7.

SUNDOWN SEMINARS

FRIDAY, AUGUST 11

5:00 - 6:30 p.m.

CPT Coding Workshop

Kathryn Hansen, R. EEG T., CPC, CPMA, BS

Correct CPT coding will increase your department's revenue by reducing refused claims for incorrect billing. This workshop will include an overview of updates to neurodiagnostic procedure codes and ICD 10 updates. You are encouraged to bring in your most challenging examples of coding issues for Kathryn to discuss and resolve with you. Kathryn is a credentialed Coding and Billing Auditor and a credentialed Coder. She has extensive experience with completing billing and coding audits and travels around the country conducting training sessions. She also serves as ASET's subject matter expert on CPT coding.

EEG Instrumentation Workshop

Larry Head, R. EEG/EP T., CNIM, RPSGT, RST, FASET

This workshop is ideal for anyone planning to take the EEG Registry Exam, or who needs to brush up on basic instrumentation concepts. Topics covered will include the properties of the differential amplifier, determining polarity of waveforms, using filters and measuring amplitude and duration. This session will offer the opportunity to learn through short, skill-building exercises guided by your facilitator, Larry Head, who is a professional educator and past recipient of the Theda Sannit Outstanding Educator Award. It will be an interactive and fun experience.

MEG Workshop

Susan Bowyer, PhD; Michael Stein, MD; Shawn Walls, MA

Three perspectives on Magnetoencephalography will be presented in this workshop, covering the theory behind the MEG study, diagnostic utilization and technical aspects provided by a technologist with many years' experience recording MEG studies. If your hospital plans to open a MEG lab, or if you plan to take the new ABRET MEG certification exam, this workshop is for you!

Educator's Open Forum - Free Event for Educators

Facilitated by Marjorie Tucker, R. EEG/EP T., CNIM, R.NCS.T., CLTM, Chair of the Program Directors' Council

This is a free event and all neurodiagnostic educators are invited to attend. If you are interested in serving as a clinical site, or hoping to start a new NDT program, this session will be a valuable opportunity to network with other educators and receive updates from key stakeholders: the CoA-NDT and ABRET. The agenda will be kept open to allow for free flow discussion and sharing of ideas.

EXHIBIT HALL

THURSDAY, AUGUST 10

10:00 a.m. - noon

1:30 - 6:30 p.m.

5:15 - 6:30 p.m. (reception)

FRIDAY, AUGUST 11

10:00 - 11:45 a.m.

1:00 - 3:15 p.m.

PARTIAL LIST OF COMPANIES THAT WILL BE EXHIBITING:

(as of 4/26/2017)

ABRET Neurodiagnostic Credentialing & Accreditation

Ad-Tech Medical Instrument Corporation

Alliance Family of Companies

Ambu

American Society of Neurophysiological Monitoring

Aureus Medical Group

Banner University Medicine

BJC HealthCare

Cadwell Laboratories, Inc.

Compumedics USA, Inc.

CortiCare, Inc

Dignity Health

Electrical Geodesics, Inc

Global Neuro-Diagnostics, LP

IntraDiagnostics/IntraNerve

KEGO

Knowledge Plus, Inc

Lifelines Neurodiagnostic Systems, Inc

Medical Staffing Network

Medtronic

MVAP Medical Supplies Inc.

Natus Neurology

Physicians Ancillary Services, LLC

PMT Corporation

Procirca

RhythmLink International

Rochester Electro-Medical, Inc

SafePassage

Signal Gear

SOMNOMedics America Inc.

SpecialtyCare

Taylor & Francis

Trusted Neurodiagnostics Academy

UCSF Health

Veterans Health Administration - Epilepsy Centers of Excellence

Weaver and Company

NETWORKING & SPECIAL ACTIVITIES

CONFERENCE MOBILE APP

To enhance your conference experience we are again providing a mobile conference app which you can download to your smartphone or mobile device. The conference app will give you the freedom to engage with other attendees, provide immediate feedback to speakers, view the agenda at a glance, and find your vendor representatives in the exhibit hall. ASET App Champions will periodically ping attendees through the mobile app to keep you engaged in all of the conference events. Exhibitors will be able to use the app for lead retrieval purposes to streamline your exhibit hall experience. Additional information and download instructions on the conference mobile app will be distributed to pre-registered attendees closer to the event. Stay tuned! Complimentary wireless internet will be available in guest and meeting rooms. **** Available for iPhone, iPad, iPod Touch, Android phones and tablets, BlackBerry devices, and computers.**

ASET FOUNDATION SILENT AUCTION

Preparations are now underway for the Silent Auction to be held at the ASET 2017 Annual Conference. Items for the silent auction will be on display in the Exhibit Hall. Bidding will open Thursday morning and continue during all Exhibit Hall hours. The silent auction will be closed-out – and funds collected – during the final 20-minutes of the Friday afternoon break in the Exhibit Hall.

The Foundation's silent auction is its largest annual fundraising event, but we need your help and generosity to make this event successful. Please consider donating one or more items for the auction. Past popular items have included electronics (iPods, digital cameras, pocket camcorders, wireless reading devices), jewelry, and gift baskets. To make a donation, download the donation form (www.asetfoundation.org/downloads) and return to the Foundation no later than July 10, 2017.

In an effort to raise even more funds to support the Foundation's many initiatives, we are suggesting all items donated have a minimum retail value of \$25. Smaller items can be bundled!

ANNUAL BUSINESS MEETING LUNCHEON

Thursday, August 10
Noon - 1:30 p.m.

The Annual Business Meeting Luncheon is an important event not to be missed. This is your opportunity to hear about the state of affairs of ASET and bring up any new business before the Society. Hear the annual reports of the ASET President,

Secretary-Treasurer, and ASET Foundation Chair, and witness the installation of the newly elected officers and trustees to the ASET board.

All conferees are invited to attend and the event is included in the full and Thursday-only conference registration fees. Only ASET members in good standing with the Society who attend the meeting, however, will constitute the voting body.

EXHIBIT HALL WELCOME RECEPTION

Thursday, August 10
5:15 – 6:30 p.m.

This reception offers attendees an opportunity to meet new friends, renew old acquaintances, and explore the Exhibit Hall in a relaxed and casual atmosphere. Leading companies providing services, equipment, and supplies to the Neurodiagnostic profession will be on hand to answer your questions and show you what's new in the industry! Light hors d'oeuvres will be served and a cash bar will be available. The Exhibit Hall Reception is included with a Full 3-day registration and Guest Passes.

AWARDS CEREMONY LUNCHEON

Friday, August 11
11:45 - 1:00 p.m.

Join us for a seated lunch to recognize your peers for their outstanding contributions to the Neurodiagnostic community. The awards ceremony will include presentations of the prestigious Maureen Berkeley Memorial Award, Theda Sannit Outstanding Educator Award and Trustee Award. Induction into the 2017 Class of Fellows will take place and the 2017 graduating class of the ASET/ABRET Leadership Academy will be honored. All conferees are invited to attend and the event is included in the full and Friday-only conference registration fee.

SUNDOWN SEMINARS

Friday, August 11
5:00 - 6:30 p.m.

The sundown seminars are designed to promote customized learning in an informal setting with opportunity to ask questions. There is a separate registration fee of \$30 for these workshops (unless noted otherwise). We encourage you to register in advance, but we will accept registrations on-site. A description of this year's sundown seminars can be found on page 13.

ASET'S GOT TALENT

Friday, August 11
8:00 – 10:00 p.m.

After dinner and before you retire for the night, join us for an evening of networking and entertainment. Bring your dancing shoes as we anticipate another live musical performance by The Dendrites, ASET's renowned member band. Plus, showcase your own musical styling and talent by participating in the Karaoke performances that will be held between band breaks. A cash bar will be available.



INTEREST SECTION LUNCHEON

Saturday, August 12
12:00 – 1:00 p.m.

From Acute/Critical Care Neurodiagnostics and Computers in the Workplace to Pediatrics and Neonatology and Polysomnography/Sleep Technology, the ASET Interest Section briefings in *ASET news* and Interest Section Discussion forums on the ASET website are great sources for information sharing and getting answers to your questions. ASET's Interest Sections are led by highly qualified and knowledgeable technologists who can help address your issues and questions – as well as direct you to other invaluable resources. Now you have the ability to ask questions in person at the Saturday conference luncheon. Registration is not required. All you need do is select the luncheon table representing the section in which you have an interest and then share your questions, feedback, and suggestions.

ANNUAL CONFERENCE SHIRTS

ASET has once again teamed up with Cadwell Laboratories to provide all attendees with a complimentary 2017 Annual Conference t-shirt. Please choose your desired size when registering and remember to stop by Cadwell's booth in the Exhibit Hall to show your appreciation for their continued support of ASET and the neurodiagnostic community. The t-shirts are 100% pre-shrunk cotton with the 2017 Annual Conference logo on the front. Your registration must be received by July 07 to ensure you get your preferred size.

GENERAL INFORMATION

CONFIRMATION NOTICE

Registrations are normally processed within seven business days of receipt. A confirmation letter will be emailed once the registration has been processed. Please bring a copy of your registration confirmation with you to the pre-registration booth.

REGISTRATION DESK

Pre-registration and on-site registration will be open during the following hours:

Wednesday: August 09 6 p.m. - 8 p.m.
Thursday: August 10 7 a.m. - 6 p.m.
Friday: August 11 7 a.m. - 5 p.m.
Saturday: August 12 7:30 a.m. - 2 p.m.



REGISTRATION POLICIES

- Attendees are urged to register online at www.aset.org
- To register, payment must accompany your registration form. No registrations will be processed without payment.
- The full meeting registration fee includes a flash drive containing the course handouts, attendance and tickets to the plenary session lectures, course learning labs, Exhibit Hall reception, and food functions Thursday through Saturday.
- Registration fees for one or two-day attendance includes a flash drive containing the course handouts, admittance to plenary session lectures and courses for the day registered, and applicable food functions.
- Guest meal package includes admittance to the Exhibit Hall reception and lunch, Thursday through Saturday.
- Only those individuals who are registered and have an unaltered badge may attend ASET events.
- Additional fees apply for the Sundown Seminars; refer to the meeting registration form for additional details.
- Attendees who lose their badge may be subject to a replacement fee.

CANCELLATION POLICIES

- All cancellations must be made in writing and must be mailed, faxed or emailed to the ASET Executive Office.
- Written notice of cancellation received by ASET on or before July 07, 2017, will result in a refund of fees paid less a \$50 processing fee. There will be no refunds for cancellations received after July 07, 2017.

RECOMMENDED ATTIRE

Business casual attire is strongly encouraged. Please dress comfortably to create the best learning environment. The August average daily high in Tucson is 97 degrees. Temperatures at night average around 75 degrees. Please note, the meeting rooms may be cooler than expected. We suggest dressing in layers and bring a light jacket or sweater to keep you comfortable.

SPECIAL ASSISTANCE NEEDS

If you require special assistance or dietary consideration, please complete the applicable section on the conference registration form, or call the ASET Executive Office at 816.931.1120, ext 102 or e-mail info@aset.org.

CONTINUING EDUCATION CREDITS

ASET continuing education units will be awarded to participants. Approximately 7.5 ASET-CEUs will be awarded for Thursday, 7.5 credits for Friday and 6.5 for Saturday. The Sundown Seminars will be awarded an additional 1.5 credits. You can earn up to 23 ASET-CEUs during this conference. Such crediting, however, should not be construed by program participants as an endorsement of any type of instruments or supplies mentioned or involved in the presentations.



HOTEL ACCOMMODATIONS AND RESERVATIONS

All events will be held at:

Westin La Paloma Resort & Spa
3800 E Sunrise Dr
Tucson, AZ 85718
866.837.4156
www.westinlapalomaresort.com

Set in the foothills of the Santa Catalina Mountains, this upscale resort is 1.4 miles from La Encantada Shopping Center and 9.3 miles from Tucson. Understated rooms come with 42-inch flat-screen TVs and rainfall showerheads, plus patios or balconies. Dining options include a Southwestern restaurant, a casual bar and grill, and a coffee shop. There are 5 outdoor pools and a waterslide, as well as a kids' club, a spa and a 27-hole golf course. The Resort Service Fee has been waived for attendees in the room block. Normally \$25.00 per room per day, the fee includes guestroom internet, complimentary self-parking, unlimited admission to the fitness center, and complimentary shuttle service to La Encantada Shopping Center.

The special conference guest room rate at the **Westin La Paloma Resort & Spa** is **\$90**, single or double occupancy, per night. Check-in time is 4 p.m. and checkout is 11 a.m. **Complimentary**

wireless internet is available in guest and meeting rooms so bring your mobile devices and plan for an engaging and interactive experience! For more information about the resort, visit www.westinlapalomaresort.com.

Reservations are to be made directly with the hotel before July 18, 2017, to secure the special conference rates. When making reservations by telephone, mention you are attending the "**ASET 2017 Annual Conference**". You can also secure your hotel reservation directly from the ASET website by visiting, www.aset.org/achotel and clicking on the **Make My Reservation** link. *Reservations made after the July 18th cut-off date will be on a space-available basis and may not qualify for the conference rate.*

TRANSPORTATION

The Westin La Paloma Resort & Spa is 17 miles (25 minutes) from the Tucson International Airport (TUS). Self-parking at the resort is complimentary. Taxi is \$50 one-way. Arizona Stagecoach is the recommended shuttle service.

Arizona Stagecoach has a convenient counter inside the airport located on the lower level at Baggage Claim #4 and #5. Reservations can be booked by calling 877.782.4355 or online at www.azstagecoach.com. When booking please use the group code: **ASET**.

ASET has arranged a group discount for their airport shuttle transportation of only \$42 one-way per person, \$4 for each additional passenger on the same booking, or \$76 round-trip per person, and \$8 for each additional passenger on the same booking.

Additional information can be found on the ASET website under Hotel and Travel Accommodations.

PARKING

The Westin provides complimentary self-parking for quests. Valet parking is available for a surcharge.





402 E. Bannister Rd, Ste A
Kansas City, MO 64131
www.aset.org

Register today to attend the
ASET 2017 Annual Conference
AUGUST 10 - 12, 2017
WESTIN LA PALOMA RESORT & SPA
TUCSON, AZ

August 10 - 12, 2017

PEAK PERFORMANCE

Tucson, AZ

IMPORTANT DATES

Early Bird Registration Deadline	June 30
Registration Cancellation Deadline	July 07
Silent Auction Donation Forms Due	July 10
Hotel Reservation Deadline	July 18
Course Handouts Available Online	August 01
Advanced Registration Deadline	August 09

THERE IS SOMETHING FOR EVERYONE IN TUCSON, AZ, AT THE WESTIN LA PALOMA RESORT & SPA