SIGs - Special Interest Group – Listing (year, title & overview)

2025

SIG | Basic Mechanisms and Neuroscience of Epilepsy: Proteome and Circuit Changes Driving the Developmental Progression of Epilepsy

Overview

Seizure severity can improve with age or emerge later, such as in late childhood. The underlying causes—whether delayed development, compensatory mechanisms, or homeostatic changes—remain unclear. This SIG explores recent advances in understanding proteomic and circuit-level changes in the developmental progression of epilepsy and their clinical implications. The session includes seminar talks and a moderated discussion, with speakers presenting findings from genetic mouse models of epilepsy and seizure-related disorders. Discussions will focus on proteomic and neural circuit-level mechanisms driving epilepsy progression across developmental stages, emphasizing translating insights into treatments to accelerate seizure resolution or prevent late-onset epilepsy.

2024

SIG | Basic Mechanisms and Neuroscience of Epilepsy: The Emerging Roles of Ras-MAPK Pathway in Drug-Resistant Epilepsy

Overview

Genetic variants in the Ras-MAPK pathway are well-described in low-grade epilepsy-associated tumors, and they are a newly recognized cause of malformations of cortical development and temporal lobe epilepsy. This SIG highlights current progress in understanding the genetic and molecular mechanisms of Ras-MAPK signaling in epilepsy and its clinical implications. The session includes talks and moderated discussions. Speakers present new human genetic findings and discuss mechanistic investigations into how Ras-MAPK variants and signal dysregulation may lead to neural dysfunction and epileptic networks. Speakers also discuss the interplay between the Ras-MAPK and PI3K-mTOR pathways in epilepsy and targeted treatment avenues.

2023

SIG | Basic Mechanisms and Neuroscience of Epilepsy: Human iPSCs-based Neuron and Brain Organoid Models to Dissect Genetic Epilepsy

Overview

Recent developments in the human induced pluripotent stem cells (iPSCs)-derived neuron and organoid models provide transformative tools for us to dissect genetic epilepsies with human

cells. This session highlights the current progresses in this emerging field. Panelists, in an interactive seminar talk format, will discuss cutting-edge technologies and present mechanistic investigations into how genetic variants identified from patients may lead to an epileptic network. Panelists will discuss how phenotypes identified in the human cell-based models could be targeted to develop next-generation interventions that advance treatments for genetic epilepsies.

2022

SIG | Basic Mechanisms and Neuroscience of Epilepsy: Paradoxical mechanisms of hyperexcitability in epileptic circuits

Overview

Historically, epilepsy and seizure generation have been considered to represent an imbalance between neuronal excitation and inhibition. This concept, born from recordings of synaptic and membrane potentials in early animal models, has been invaluable for guiding our understanding the physiological basis of seizure and antiseizure drug mechanisms. However, evolving knowledge of developmental changes, cell type specificity, and neuronal circuit complexity suggests that a straightforward concept of E/I imbalance is inadequate in many ways, and at least requires expansion if we are to use it as a guide to further our mechanistic understanding of genetic epilepsies and how to treat them. This session will feature three short presentations and moderated discussion. It will highlight recent studies in animal models of epilepsy demonstrating how changes in molecular function that would be expected to decrease excitability of neurons lead to hyperexcitable circuits and seizure.

2025

SIG | Children's Hour: Navigating Implementation Challenges in Precision Medicine

Overview

Neurogenetics has revolutionized diagnosis and prognosis in child neurology and bring preciscion therapeutics into grasp for the first time. Despite these advances, bringing molecular therapies for epilepsy such as ASOs or gene therapy from bench to bedside poses significant scientific, logistic, regulatory, and financial hurdles. Three speakers will discuss challenges impeding: (1) development of therapies for specific genetic epilepsies (Patient-to-Bench-to-Therapy); (2) administration of therapies in the hospital setting (Therapy-to-Patient); and (3) regulation and approval of molecular therapies for rare pediatric epilepsies (FDA). Speakers will highlight practical ways they addressed these challenges, followed by an interactive panel discussion with the audience.

2024

SIG | Children's Hour: No Spike Left Behind – Does Resecting IEDs Outside of the SOZ Improve Outcomes?

Overview

In pediatric epilepsy surgery, the usual target is the seizure onset zone (SOZ). However, interictal epileptiform discharges (IEDs) are often present outside of the SOZ. Factors that play a role in determining whether to target IEDs for surgery include the patient's degree of cognitive dysfunction, distance of IEDs from the SOZ, presence of eloquent cortex in the target region(s), and institutional preferences. Including IEDs in the surgical plan is controversial. This Children's Hour SIG explores the pros and cons of surgically targeting IEDs outside of the SOZ, balancing evidence and experienced-based perspectives of providers.

2023

SIG | Children's Hour: Pediatric Epilepsy Surgery: 'Go Big or Go Home' vs. Staged Approaches

Overview

In pediatric epilepsy surgery, while targeting the entire epileptogenic zone for removal is ideal, a staged approach rather than a single complete resection may be needed. Factors that play a role in determining the surgical plan include: the potential for post-operative deficits, the ability to delineate the surgical target and eloquent cortex, clinical and developmental urgency, and institutional preferences.

This Children's Hour SIG aims to explore how these two approaches balance evidence-based medicine with the biopsychosocial context and preferences of patients and providers. Additionally, each speaker will support the learning objectives with a case that illustrates the surgical trajectory chosen.

2022

SIG |Children's Hour: Pushing Boundaries: Epilepsy Surgery in Infants and Young Children

Overview

Epilepsy surgery in the very young population (children younger than 2 years of age) introduces unique challenges compared to older children and adults. Bland symptomatology in infants, and the inability to describe auras or ictal sensations in children produce an incomplete semiology to guide surgical planning. Limitations in development and anatomy may compromise localization of the epileptogenic zone with traditional neuroimaging methods. And finally, the size of the patient themselves affects decisions for stereo-EEG (sEEG) coverage and surgical decision-making. This Children's Hour SIG will consist of a moderated panel, with each speaker exploring a common barrier and illustrating a case that highlights how a creative approach was both successful and safe. First, while pediatric anatomy may limit sEEG coverage, expansive sampling is possible and, in some cases, necessary. Second, advanced imaging and neurophysiology techniques may effectively visualize an epileptogenic zone or identify critical nodes as potential targets. And third, repeated "smaller" surgeries may be favored over a single "big" intervention in specific situations during this developmentally critical period. The discussion period will focus on how to apply these techniques in individual patients.

2025

SIG | Clinical Epilepsy for the Advanced Practice Provider: Unraveling the Code: Epilepsy Genetics

Overview

With increased availability of genetic testing and collaborative research initiatives, the database of gene variants associated with epilepsy has grown exponentially in the last twenty years. A multidisciplinary approach that includes both providers and genetic counselors helps provide accurate clinical evaluation, genetic evaluation, and patient counseling. This SIG will explore the history of epilepsy genetics, current testing recommendations, and review both common and newly identified genetic variants. Practical guidance will be given on when to order testing, which tests to consider, and the interpretation of results. Speakers will highlight treatment implications and the development of precision therapies through molecular diagnosis.

2024

SIG | Clinical Epilepsy for the Advanced Practice Provider: Filling the Gap in Mental Health Care

Overview

APPs in epilepsy are often de facto mental health providers for people with epilepsy or PNEA who lack access to behavioral medicine specialists. In response to requests for more detailed information on these topics, this SIG provides concrete examples and resources to enable APPs to provide cost-effective treatment for PNEA and pharmacological management of common mental health conditions in people with epilepsy, including depression, anxiety, ADHD, and disruptive behavior. A panel discussion follows two lectures and APPs are invited to ask questions and share successful approaches to meeting the mental health needs of our patient population.

2023

SIG | Clinical Epilepsy for the Advanced Practice Provider: Integrating APPs in Epilepsy Surgery Evaluation

Overview

Identification and planning for surgical intervention in patients with epilepsy is a complex process that involves multiple team members to be successful. This session will include discussion regarding the identification of surgical candidates, brain imaging and EEG interpretation, decision making about further testing, and presenting patients at surgical conferences. This SIG will enhance the APPs clinical skills, promote optimization of APPs in clinical practice thereby increasing access to comprehensive care for patients with epilepsy.

2022

SIG | Clinical Epilepsy for the Advanced Practice Provider: Subspecialty Clinics: Leveraging APPs to improve access

Overview

This session will utilize subspecialty clinic APPs who will describe development as well as management of a variety of subspecialty clinics including Functional Neurologic Disorder, Ketogenic Diet Clinic, and Transition Clinic. A panel discussion will support the learner to identify ways to implement subspecialty clinics in their practice.

2025

SIG | Cognitive and Behavioral Treatment for Epilepsy

No Session at the AES 2025 Annual Meeting

2024

SIG | Cognitive and Behavioral Treatment for Epilepsy: CBT in Pediatric Epilepsy – Practical Application of EBT Components

Sunday, December 8, 6:00 PM - 7:30 PM (PST)

Overview

The meeting will focus on results from an RCT evaluating evidence-based psychological intervention in YWE with psychiatric conditions. The study protocol, research findings, and implications for clinical care in a neurology clinic are discussed. Additionally, an overview of an evidence-based mental health system (i.e., tool kit) that guides clinicians seeking to implement EBT protocols for the management of common mental health concerns is included. Discussions include research findings, clinical experiences, and concrete strategies to help providers integrate CBT strategies in clinical care. The final portion is dedicated to a group discussion and Q&A with invited speakers.

2023

SIG | Cognitive and Behavioral Treatment for Epilepsy: Anxiety in Epilepsy – Evidence Based Practice for the Epilepsy Clinic

Overview

The SIG meeting will include a presentation from an epilepsy psychologist on the epidemiology of anxiety in youth and young adults, epilepsy-related predictors of anxiety, and evidence-based practice (i.e., CBT) for the management of anxiety. The meeting will also be dedicated to a discussion about a neurologist's care model for managing anxiety in an epilepsy clinic and research on the bidirectional relationship between anxiety and epilepsy. Both discussions will include research findings, clinical experiences, and concrete strategies to help providers manage anxiety in clinical care. The final portion of the meeting will be dedicated to Q&A and resource sharing.

2022

SIG |Cognitive and Behavioral Treatment for Epilepsy: Disparities in Cognitive Behavioral Therapy

Overview

The SIG meeting will begin with introductions and a brief didactic presentation from an epilepsy psychologist on the use of CBT in racial/ethnic minority populations (20 min). The multi-level barriers affecting engagement in and response to CBT among minority groups will be discussed, including personal, cultural and socioeconomic factors. The second portion of the meeting will be dedicated to a discussion of specific barriers relevant to the African American and Hispanic populations, respectively. This discussion will include research findings as well as clinical experience working with these populations, and will focus on concrete strategies to help providers engage patients from these minority groups in CBT related programs (40 to 50 min). The final 20-30 minutes of the meeting will be dedicated to group discussion and Q&A with the invited speakers, resource sharing, and generation of new business items for the upcoming year.

2025

SIG | Critical Care: Automating Critical Care EEG: Enhancing Accuracy, Efficiency, and Patient Outcomes

Overview

Automated software and electronic medical records (EMRs) significantly enhance critical care EEG by improving accuracy, compliance, and efficiency. Standardized EEG reporting templates within EMRs increase adherence to recommended terminology. Automated analysis tools enable rapid seizure and rhythmic or periodic EEG patterns detection, supporting timely clinical decision-making, effective management, and improved prognostication. Advancements in automated EEG analysis tools, from quantitative EEG approaches to artificial intelligence (AI)-based models, illustrate the potential for future innovations to improve patient care and more efficient use of healthcare resources. The session will include three lectures, a debate, and conclude with an interactive panel discussion involving the audience

2024

SIG | Critical Care: Building a Critical Care EEG Program

Overview

The use of EEG monitoring in the critical care setting continues to expand as a result of the increasing recognition of the diagnostic and prognostic significance of ICU EEG findings. This SIG provides an overview of how to set up a critical care EEG program in resource-intensive and resource-limited settings. Additionally, we review how to increase the impact, quality and effectiveness of established critical care EEG programs. The session includes talks by recognized experts and an interactive panel discussion with the audience, followed by young investigators Blitz presenting high-rated abstracts.

2023

SIG | Critical Care: Advances in EEG and Multimodal Neuro-monitoring for Seizures in the ICU

Overview

The field of Neuro-monitong for seizures in the critical care settings continues to evolve. Recent advances and controversies in the use of quantitative EEG, multi-modality monitoring and recently described potential prognostic markers in the EEG of patients suffering cardiac arrest pose new opportunities and challenges to clinicians working in the Critical Care setting. This session will start with a young investigators Blitz presenting high-rated abstracts related to Critical Care Epilepsy followed by 3 Lectures by well recognized experts and an interactive panel discussion between the panel and audience.

2022

SIG |Critical Care: Status Epilepticus Management: Beyond Antiseizure Medications and Anesthetics

Overview

Clinicians' approach to treating Refractory Status Epilepticus is based on limited data, and while this often is initiated with anti-seizure medications and anesthetics, in some patients RSE persists despite these approaches. Subsequent management is often extremely variable. Some approaches including immunomodulatory therapies, neuromodulation, and dietary therapies and recent data are available to guide these approaches. the implementation of non-pharmacological treatments in the critical care settings poses unique challenges to the epilepsy and critical care teams. This session will showcase national and international experts with expertise in these approaches, who will inform the audience's knowledge of these therapies, in addition to providing practical guidance for implementation of these therapies. Prior to the expert talks, we will also feature a data blitz: oral presentations from junior investigators of three abstracts in the field of critical care epilepsy/EEG accepted to this year's scientific program.

2025

SIG | Data Science in Epilepsy: Back to bedside: Translating quantitative tools to clinical epilepsy practice

Overview

There has been an explosion of quantitative algorithms aimed at improving epilepsy care in the past few decades, but quantitative algorithms have minimal use in clinical practice. Why is this? This session will explore the factors preventing clinical uptake, outline multiple pathways to clinical translation for quantitative algorithms, and perform a live demonstration of quantitative tools. We will then hold a debate about whether existing quantitative algorithms are good enough to implement in epilepsy clinical practice. Finally, we will engage the speakers and the audience in a lively discussion of next steps in the clinical implementation of novel algorithms.

2024

SIG | Data Science in Epilepsy: Needle in the Haystack – Using Large Language Models to Interpret Epilepsy Data

Overview

We begin with an introduction to large language models (LLMs) and its emergence in the field of artificial intelligence. Our speakers then provide an overview of multiple applications of LLMs in epilepsy research and clinical practice, including a discussion of the challenges and ethical implications of implementing LLMs. We provide a brief live demonstration of applying an LLM to an example clinical question. Finally, we engage the speakers and the audience in a lively discussion of the next steps in integrating LLMs into epilepsy research and clinical practice.

2023

SIG | Data Science in Epilepsy: TinyML: Platforms and Embedded Systems for Portable Data Science in Epilepsy

Overview

This session will feature a series of talks from experts on tiny machine learning (TinyML) architectures for data science to be performed onboard devices with low processing power and memory. We will discuss hurdles in scalability of complex artificial intelligence algorithms developed and validated in large, offline datasets, data integration across multiple devices simultaneously, and cross-modal, back translation of methods developed for neurological disorders outside of epilepsy. This will be followed by a panel discussion on the challenges of hardware and algorithm development for devices, impact of low power constraints on therapy, and implications toward security and privacy.

2022

SIG | Data Science in Epilepsy: Open data ecosystems: Language, tools, & pipelines for open science in epilepsy

Overview

The session will include 5 speakers followed by a moderated panel discussion. The speakers will introduce the FAIR Data Principles and NIH guidelines for data sharing/reuse and access. They will speak on obstacles that have arisen related to issues including data sharing/reuse, development of a common language and common data formats, data standardization, and reproducibility. Several representative data repositories will be discussed as examples, including wearable sensors, scalp EEG, intracranial EEG, subscalp EEG, and neurophysiology. Strategies toward moving toward an open data ecosystem in epilepsy will be discussed.explain the benefits of data sharing.

2025

SIG | Developmental and Epileptic Encephalopathies: The Role of Epilepsy: DEE or DeE?

Overview

In this SIG, you are judge and jury! First, we hear the case for epileptic activity being fundamentally detrimental for brain function made in crisply succinct polemics from three physician-scientists drawing on different lines of research. In the other corner, another, more experienced physician-scientist will reality-check these enthusiastic colleagues, downgrading the "E" in DEE to an "e," as he pushes back, drawing on critical examination of the literature and the realities of the practice of clinical medicine. We have budgeted ample time for discussion, anticipating that, with this controversial debate, DEE SIG will again draw a large, interactive audience.

2024

SIG | Developmental and Epileptic Encephalopathies: DEEs Due to X-link Diseases

Overview

The X chromosome has more than 800 known protein-coding genes which cause more than 500 X-linked diseases. X-linked diseases account for nearly 16% of genetic epilepsies. Although the X-linked neuronal migration disorders are probably the most recognized, some of the X-linked DEEs are encountered frequently in our practice. In this SIG, we focus on the electroclinical syndrome of X-linked DEEs (CDKL5, PCDH19, MECP2 duplication syndrome, and others), update our audience about the advances in the understanding of these diseases in preparation for gene therapy, and discuss the X chromosome reactivation as a promising treatment for patients with X-linked DEEs.

2023

SIG | Developmental and Epileptic Encephalopathies (DEE): Opportunities and Discoveries From Bench to Bedside

Overview

Developmental and Epileptic Encephalopathies (DEEs) are amongst the most severe of the epilepsies but hold much promise in terms of potential therapies. As the majority of DEEs are monogenic, they represent targets for drug development and the future of precision medicine. In the DEE SIG we will discuss animal models of DEE and the development of precision medicine in DEE. We will also review current and upcoming gene therapy trials and the lessons learned from ongoing DEE trials in humans.

2022

SIG | Developmental and Epileptic Encephalopathies (DEE): Developmental & epileptic encephalopathy: From diagnostic to treatment odyssey.

Overview

There are several gaps between diagnosing a patient with DEE and finding an effective treatment. This SIG will focus on the current odysseys for patients with DEEs: 1) diagnostic

odyssey: new genes causing DEEs were identified in the last 2-3 years. This talk will present an overview of DEE gene discovery, discussing trajectory and trends, and then delve into detail regarding several phenotypes associated with novel genes reported over the last few years (e.g., BRAT1, CSNK2B, NBEA, etc). 2) treatment odyssey: DEEs are mostly still resistant to antiseizure treatment and no traditional treatment aims at restoring cognitive and behavioral dysfunction. This SIG will address the precision therapies for DEEs, including those in the pipeline, in clinical trials and those already approved. 3) resources odyssey: since these are rare diseases, there is not much resources available. However a few family-led organizations have stepped up and created important ways to facilitate and fund research towards a cure for DEEs. See here how these organizations are promoting research-patients-physicians initiatives and results.

2025

SIG | Dietary Therapies for Epilepsy: Diet therapy updates, treatment interactions and combatting diet fatigue.

Overview

While dietary therapies can reduce or eliminate seizures combined with other antiseizure treatments, interactions and challenges with adherence may limit use. Yet, expert dietitian support and application of neurogastronomy principles can facilitate long-term improvement. The format of this session will include a brief recap of the 2025 International Global Keto meeting, two short lectures introducing principles of neurogastronomy and dietary therapy interactions, and a case-based dietitian perspective on how to tackle difficult challenges to implementing dietary therapies with audience participation. The session will conclude with questions from the audience and answers provided by our panel of experts.

2024

SIG | Dietary Therapies for Epilepsy: Beyond Seizures – Quality of Life Implications from Ketogenic Therapies

Overview

Dietary Therapies (DT) are effective for intractable epilepsy across the lifespan. As with any intervention, the impact to quality of life (QoL) is as, if not more important, than efficacy. Patients on DT often report improvement in cognition, mood, and comorbid medical conditions. However, DT may be difficult to maintain. The session reviews and debates this topic from a basic science, medical, nutrition, and patient perspective. The format includes two short lectures, a pre-recorded patient perspective, and a debate between clinicians on DT on QoL outcomes. Attendee participation is encouraged during the debate.

2023

SIG | Dietary Therapies for Epilepsy: Looking to the Future - Enhancements and Personalization

Overview

We will discuss the future of dietary therapies for epilepsy including creative ways to enhance and personalize dietary therapies to improve long term adherence and increase effectiveness while taking a patient-centered approach. We will also discuss exciting research updates from the Global Symposium on Ketogenic Therapies. New this year is the inclusion of a patient perspective, along with expert speakers who will provide clinical and research updates and advances. This SIG will include brief lectures and case-based presentations along with a moderated panel discussion with plenty of time for attendee participation.

2022

SIG | Dietary Therapies for Epilepsy: Dietary Therapies: Sex-Specific Hormonal and Reproductive Consideration

Overview

In this SIG, we plan to address a number of unique considerations related to sex-specific hormonal and reproductive health in dietary therapy for epilepsy, including topics such as pregnancy, pre-pregnancy planning, lactation, catamenial epilepsy, and relevant differences in metabolism and physiology. Expert speakers will provide a review on the current literature, update on recent research, and clinical experience on the topics, with a QnA panel discussion following the talks.

2025

SIG | EEG

No Session at the AES 2025 Annual Meeting

2024

SIG | EEG: Hybrid Human-artificial Intelligence EEG Reading

Overview

There has been considerable development of computer-assisted EEG interpretation using artificial intelligence (AI) over the last decades. The common goal is to design algorithms that perform at least as well as experts for core tasks, making these models a valuable resource to assist or replace some or all aspects of clinical EEG reading. In this SIG, the speakers summarize the advancements in automated EEG reading and present a novel web-based EEG platform that incorporates AI algorithms and optimally displays EEG studies. Further, they detail the hybrid human-AI EEG reading practice and discuss the future directions of this ever-advancing field.

2023

SIG | EEG: Should Epileptiform Spikes Be Treated in Patients Without Seizures?

Overview

Based on the emerging evidence about the significance of epileptiform spikes that may

disrupt functional brain networks, we should rethink our current strategies in clinical practice in ignoring epileptiform spikes in people with no history of seizures. The speakers will summarize the evidence related to the studies that describe the significance of epileptiform discharges in the pathophysiologic processes of cognitive problems (e.g., ASD in children and AD in adults). They will also discuss that how we can appropriately diagnose epileptiform discharges in these patient populations. Finally, they will discuss the antiseizure medication drug trials in such conditions.

2022

SIG | EEG: What is an epileptiform discharge?

Overview

Evaluating scalp EEG for interictal epileptiform discharges (spikes and sharp waves) is an important tool in the diagnosis and management of seizures and epilepsy. The presence and distribution of epileptiform discharges have important implications for supporting the diagnosis of epilepsy, determining epilepsy type, and localizing epileptogenic cortex. However, numerous studies have shown that identification of epileptiform discharges is often prone to error and significant variability - even among experts- which can have serious consequences in clinical care. In the 2022 EEG Special Interest Group, we will discuss address the fundamental question of what is an interictal epileptiform discharge. Speakers will discuss a standardized definition of interictal epileptiform discharges on scalp EEG, the neural mechanisms underlying these discharges, and discuss ambiguities in determining the nature of sharp transients on scalp EEG. Sessions include: What is an epileptiform discharge on EEG? - towards a reproducible definition; Neural mechanisms of interictal epileptiform discharges; and When benign variants are not always benign. This activity is of relevance to all learners who interpret EEG as part of clinical or research practice.

2025

SIG | Engineering and Neurostimulation: Ultramodern Device Innovations for the Future of Neuromodulation in Epilepsy

Overview

Tremendous gaps exist between state-of-the-art recording and stimulation device technologies and the neuromodulation devices currently implanted in patients with epilepsy. Physicians are starkly limited behind the cutting edge in the public and private sectors: Few electrodes vs. thousands, sampling in hertz vs. kilohertz, stimulation in solitary sites vs. sophisticated spatiotemporal patterns. Patients deserve the best tools available to prevent and abort the complex neuroanatomical dynamics of their debilitating seizures.

Three controversial debates constitute this SIG, in which leaders engineering some of the most advanced arrays and devices in the world go head-to-head to define the next generation of epilepsy neuromodulation.

2024

SIG | Engineering and Neurostimulation: Optimizing Neuromodulation Detection and Stimulation Parameters – The Wild West

Overview

Intracranial neuromodulation for epilepsy has exploded in the past decade, but which of the seemingly infinite combinations of parameter settings in these devices are truly effective? This panel+debate session highlights emerging research behind distinct detection and stimulation parameters of neurostimulation using RNS and DBS, and quantitative evidence of how they specifically influence seizures and interictal epileptiform activity. Three presentations and a final debate address biomarker detection, stimulation optimization, and emerging network-based neuromodulation, providing a roadmap for data-driven strategies and future standards. Advances in predicting treatment responders and personalizing parameters based on pre-implantation recordings are also covered.

2023

SIG | Engineering and Neurostimulation: Advances in the Surgical Treatment of Children with Refractory Epilepsy

Overview

Pediatric epilepsy surgery is associated with unique challenges, such as considerations of neurodevelopmental plasticity and other age-related factors, as well as the commonality of imaging negative and generalized epilepsies. Neurostimulation treatments, computational biomarkers, and less-invasive approaches offer unique solutions that could produce groundbreaking advances in this clinical procedure. This session will highlight these novel tools, including advances in technology for neural stimulation, noninvasive methods for presurgical evaluation, and biomarkers for predicting surgical outcomes. After individual talks, speakers will lead an interactive discussion on the future of pediatric epilepsy surgery, including remaining barriers and novel solutions on the horizon.

2022

SIG | Engineering and Neurostimulation: Understanding and modulating networks with multimodal data and stimulation

Overview

Resection and brain stimulation are valuable tools that can be used to alter epileptic networks as we seek to improve patient outcomes. With the wide range of technologies available today, it is increasingly important to incorporate multiple data types prior to making treatment decisions. Brain stimulation, in particular, is fraught with uncertainty as mechanisms influencing the effects of electrical stimulation remain unclear. The goal of this session is to examine how we integrate information about the structure and function of the brain and consider how brain stimulation

affects networks in unforeseen ways. Speakers will discuss incorporating structural and functional data into the prediction of network dynamics and the wide-ranging impacts of brain stimulation on neuronal networks. Speakers will end their talks by discussing future engineering and neurostimulation applications. An interactive discussion will then synthesize aspects of multimodal data, brain stimulation, and network modulation.

2025

SIG | Epidemiology: Seize the Data(bases)! Explore the Promise/Pitfalls of Different Data Sources

Overview

We have entered an age of ever-increasing data collection. Join us at the 2025 Epidemiology SIG for an exploration of diverse types of population-level data. We will first spotlight two highly-rated trainee abstracts and then shift our focus to the core theme of the 2025 SIG: how to choose among the plethora of datasets available for your research. Our session will feature expert speakers who will delve into specific facets of unique datasets--from genomics to social media--then we will together discuss how and when to use these data.

2023

SIG | Epidemiology: Epidemiology in Action: How Our Findings Change Epilepsy Clinical Practice

Overview

The first portion will be for 2 trainees, chosen from those abstracts submitted to the annual meeting. Each of these investigators will have 7-minutes to present the topic of their poster at the 2023 meeting.

The second portion will respect the theme “Epidemiology in action-how our findings change epilepsy clinical practice.” Two speakers, known for their research/leadership in this field, will present (25 minutes each) on: 1)pediatric epilepsy perspective of how epidemiological studies change and are applied to clinical practice; 2)an adult epilepsy perspective.

2022

SIG | Epidemiology: Beyond prediction: Can Big Data and Advanced Analytics Catalyze Epidemiology?

Overview

We propose using a mixed format for this year’s Epidemiology SIG, which will encompass the theme ‘Beyond prediction: Can Big Data and Advanced Analytics Catalyse Breakthroughs in Epidemiology?’.

The first portion of the session will be reserved for 2 trainee investigators, chosen from those abstracts submitted to the annual meeting for the poster sessions. Each will be given 7 minutes to present their research on a topic complying with our theme.

The second portion of the session will involve didactic lectures by world leaders in Big Data. Two speakers, known for their research and leadership in this field, will present (25 minutes each) on: 'Breaking it down: what every clinician should know about big data' and 'Applying big data to epilepsy: the past, present, and future'. The first lecture will be a general overview that teaches attendees how to interpret and critique these unique study designs. The second will be a tour de force on what has been done and where the future lies with specific respect to epilepsy.

2025

SIG | Epilepsy and Aging: Multimodal Biomarkers of Epilepsy in Older Adults

Overview

This SIG delves into the multimodal biomarkers of epilepsy in aging. This session examines how aging-related changes, such as neuroinflammation, altered neurotransmitter activity, and structural brain atrophy, give rise to challenges in diagnosis and treatment in the vulnerable older population with seizures. Clinical and basic science experts will share insights from animal models and clinical studies exploring multimodal biomarkers, including electrophysiology, cognitive profiles, neuroimaging, neuropathology, and multi-omics, to bridge knowledge gaps. The session emphasizes the clinical relevance of these markers in improving diagnostic accuracy, informing personalized management strategies, and advancing targeted therapies tailored to older persons with epilepsy (PWE).

2024

SIG | Epilepsy and Aging: Frailty and the Spectrum of Aging in People with Epilepsy

Overview

The Aging SIG explores frailty and the spectrum of aging in epilepsy. The ILAE Task Force on Epilepsy in the Elderly offered recommendations for the optimal management of epilepsy in older people, including healthy older adults, those with multiple comorbidities, and frail people. This SIG addresses these unique aging epilepsy populations. Clinical and basic science experts discuss the range of aging states in epilepsy, the practical considerations of managing epilepsy in older people with aging-related comorbidities that may influence frailty, the neurocircuitry of stress in epilepsy, and the association between frailty and adverse effects of antiseizure medicines.

2023

SIG | Epilepsy and Aging: Unique Aspects of Epilepsy in Aging

Overview

The Aging SIG 2023 will explore unique aspects of epilepsy in the aging population, framed by a case presentation of an older adult with new seizures and many questions. We will present the case of a 65-year-old woman who develops unexplained epilepsy, and experiences significant medication side effects. After some online reading, she has concerns about her risk for dementia and for early mortality due to her epilepsy. We will use this case to explore unique

aspects of epilepsy in older adults, including pharmacokinetics, cognitive impairment, and mortality. Experts will provide insight into developing areas of research, and stimulate discussion.

2022

SIG | Epilepsy and Aging: Pharmacotherapy challenges in managing older adults and elderly with epilepsy

Overview

We will start the session with a talk on the progress being made in the basic science field with an appraisal of how aged rodent models are currently used in epilepsy research, current data on ASM efficacy in aged rodent epilepsy models, and a discussion of the remaining gaps in knowledge on the future integration of aging-related neurological disease models to discover ASMs and/or uncover novel therapeutic targets for epilepsy. This will be followed by a talk on a therapeutically challenging form of epilepsy, unique to older adults and the elderly - autoimmune LGI1/CASPR2 epilepsy, including a discussion on the recent randomized controlled trial of immunotherapy for this condition. Finally, we will discuss insights gained about the management of late-onset epilepsy among the elderly from one of the longest-running registries of newly diagnosed epilepsy patients, spanning over 30 years, at Western Infirmary at Glasgow. The SIG will be in a moderated panel format. Three speakers of different career stages will address these topics, representing a spectrum of clinical and basic science expertise.

2025

SIG | Epilepsy Education: EEG competence for neurology residents: how is it assessed and what's next?

Overview

The Education SIG will focus on the importance of teaching EEG to neurology residents and how to effectively assess competence. The session will begin with a talk discussing the current methods for assessing EEG competence, including strengths and areas for improvement. This will be followed by a debate addressing two critical questions: whether EEG competence should be achieved by residents prior to graduation or if advanced fellowship training beyond residency is required. The session will conclude with a forward-looking discussion on developing and implementing effective methods for assessing EEG competence.

2024

SIG | Epilepsy Education: The Why, What and How Should We Teach EEG To Neurology Residents?

Overview

The Education SIG focuses on why it is important to teach EEG to neurology residents during training and best practices for how to teach EEG and assess competence. The session is broken

into 2 brief talks followed by a debate. During the debate, each speaker makes the two opposing arguments that EEG education and assessment of competence should be about quality (qualitative approaches, i.e., quality of interpretation or reports) versus quantity (quantitative approaches, i.e., number of EEGs read).

2023

SIG | Epilepsy Education: Epilepsy Education Throughout the Training Pipeline

Overview

Epilepsy education occurs throughout the training pipeline and impacts interests in pursuing epilepsy fellowship and ultimately epilepsy related careers. Epileptologists play critical roles in the education of medical students, residents, and fellows – but often lack a framework specific to each target audience that captures interest, motivates interest in epilepsy, and teaches towards minimum competency goals. This SIG examines features and structures of four epilepsy specific educational programs targeting trainees, followed by audience discussion, with the objective of identifying core components that could be adapted to the broader epilepsy education community.

2022

SIG | Epilepsy Education: Epilepsy Education: Diversity, Equity and Inclusion in Epilepsy Education

Overview

We plan to use a moderated panel format in order to promote a discussion of some of the many ways that diversity, equity and inclusion (DEI) are essential components of epilepsy education. We plan to address the need for enhanced education in health disparities in patients with epilepsy by discussing principles of developing a curriculum for health disparities education. Our hope is that we can discuss ways to share tools between institutions, so that we can benefit from collective knowledge and ensure that a broader range of learners has access to this training. We will also discuss disparities in epilepsy education both nationally and internationally, where there can be a high degree of variability in local expertise. We will discuss how to increase equity in epilepsy education using virtual education tools, and we will discuss the development of epilepsy educational programs in Latin America. We also plan to have a discussion of strategies to increase diversity in our epilepsy education community using best practices in recruitment, retention and promotion. As with previous Epilepsy Education SIG sessions, we hope that this discussion will spark collaboration on new projects to promote DEI in epilepsy education.

2025

SIG | Epilepsy Surgery: Thalamic Neuromodulation: New Frontiers

Overview

Patients with drug-resistant epilepsy (DRE) who are not candidates for resective or ablative surgery are often considered for open and closed loop neuromodulation. Various thalamic nuclei have been extensively investigated as targets for neuromodulation. However, the mechanism of action and therapeutic effects of thalamic neuromodulation on various types of epilepsy are a pertinent topic of debate. We propose a moderated panel discussion by experts leading the field of thalamic neuromodulation.

2024

SIG | Epilepsy Surgery: Thalamic Stimulation for Epilepsy – A Patient-centric Network-based Approach

Overview

A moderated panel of epilepsy surgeons present updates on thalamic neuromodulation as well as patient-centric epileptic network-based decision-making in thalamic stimulation for epilepsy. The increasingly recognized role of the thalamus as a critical integrative hub in the propagation of epilepsy provides therapeutic opportunities for neuromodulation of this key node in extensive epileptic networks. Advancements in neuromodulation offer increasing options for neuromodulation approaches that can be tailored to a patient and their specific epilepsy network. This SIG presents a patient- and network-based approach to this decision making for the busy clinician.

2023

SIG | Epilepsy Surgery: Homunculus Revisited – Managing Central Lobe Epilepsies

Overview

A moderated panel of epilepsy surgeons will present updates on the evolving surgical approaches to focal epilepsy localized to the central lobe.

2022

SIG | Epilepsy Surgery: Neuromodulation: techniques, challenges and opportunities

Overview

This Special Interest Group discusses and debates the challenges and opportunities provided by the expanding field of Neuromodulation for Epilepsy.

2025

SIG | Genetics: Clinical Utility of Genetic Testing for Epilepsy in Different Age Groups

Overview

As genetic testing is increasingly integrated into routine epilepsy care, understanding the implications of a genetic diagnosis for persons with epilepsy, their families, and clinicians is very

important. Genetic testing is now available in most epilepsy care settings, and it is recognized that many syndromic and non-syndromic epilepsies with neonatal/infantile, childhood, and even adult onset have genetic etiologies. However, the impact of a genetic diagnosis on prognosis and medical/surgical treatment options is not widely known. Through brief case presentations followed a moderated panel discussion, in this session we will discuss the utility of genetic testing for epilepsy across the lifespan.

2024

SIG | Genetics: Molecular Genetic Pathologies – A Path to Precision Medicine in Focal Epilepsy

Overview

Post-zygotically-acquired (somatic) variants are increasingly recognized as significant genetic contributors to focal epilepsy risk. These discoveries have led to the identification of gene/pathway-specific neuropathologic signatures (PI3K-mTOR pathway-associated FCDII, SLC35A2-associated MOGHE, and beyond) and potential novel targeted therapies. These advancements suggest that molecularly-informed precision medicine, much like what is available in oncology, is on the horizon for focal epilepsy. This SIG discusses the recent somatic genetic discoveries, how these findings are leading to the identification of new genomically-informed neuropathologic and radiographic entities, and the challenges and opportunities for these discoveries to improve diagnostics and treatment approaches in focal epilepsy.

2023

SIG | Genetics: Clinical Genetics in 2024 – What You Need to Know

Overview

People with epilepsy and a clinically identified genetic variant typically do not respond to treatment and often have severe lifelong disabilities. Rates of progression, comorbidities across the lifespan, and prognosis are poorly established. These factors challenge not only the interpretation of genetics tests and the design of personalized treatment plans but also the design of clinical trials for precision medicines. We will critically discuss current best practices for using genetics to enhance clinical care and learn how to prepare ourselves to enroll patients into clinical trials in the future efficiently.

2022

SIG | Genetics: Prophecy of bioinformatics vs functional modeling in predicting variant function

Overview

Genetics SIG presented in a traditional interactive debate format will bring together experts in bioinformatics and functional modeling to debate new approaches used in the functional assessment of genetic variants. The experts will discuss individual methods (in silico approaches,

traditional and high-throughput biological systems, the role of iPSCs and organoids) and debate their strengths, limitations, relevance for clinical practice, and vision for the future.

2025

SIG | Global Health: Implementing Technological Innovations in Lower- and Middle-Income Countries

Overview

The intense pace of technological innovation is rapidly changing the way care is provided to PWE. This may increase global disparities. Yet on the other hand technologies are being created that may help to reduce these disparities and improve epilepsy care where treatment gaps have been difficult to address. Through topics that highlight these technologies. 4 speakers will present 15-minute topics preceded by an Introduction of 5 minutes by the Chair who will set the landscape. At the end will be a 25-minute Q&A led by the Chair and will involve all faculty members as well as the audience.

2024

SIG | Global Health: Managing Refractory Epilepsy in a Resource-limited Setting – Doing More with Less

Overview

The 2024 SIG, a moderated panel discussion, presents an original outlook on management of refractory epilepsy in a resource-limited setting, impacting over 16 million globally. Our diverse global expert panel covers key aspects: Dr. Amza Ali, a Jamaican epilepsy care pioneer, discusses cost-effective antiseizure medication use. Professor K. Radhakrishnan, responsible for introducing epilepsy surgery in India, discusses optimal pre-surgical test selection. Dr. Pauline Samia, with her significant contributions to epilepsy in Africa, speaks about status epilepticus treatment in constrained environments, and Beth Zupec-Kania, a world-renowned expert on Ketogenic diet, reviews epilepsy-specific diet utilization worldwide.

2023

SIG | Global Health: The Global Approach to Tele-care Delivery – Bridging the Epilepsy Gap

Overview:

The 2023 SIG explores how telecommunication globally may reduce the treatment gap. Dr Herrera, from Peru will explore Telemedicine as a means of expediting epilepsy surgical work-up through a joint venture between North America and Lima. Sameer Zuberi, from Glasgow, will review how video uploads may reduce time to treatment across Continents. Ruta Yardi, will present research in rural care delivery, and directly address ways to improve access in remote

global regions. Lastly, , we will hear from Kisansa Mugoya Safi, from Uganda, and, Armela Becic-Huling, an EEG technologist originally from Bosnia, on their collaborative approach to EEG education.

2022

SIG |Global Health: Optimizing epilepsy care in areas in need: Training and program building

Overview

The 2022 SIG will include testimonies of 2 patients with epilepsy living in poor resource areas. They will share with audience the challenges they faced in order to receive appropriate care. This will be followed by a panel of 3 speakers with short practical talks. The president of epilepsy society from Mexico will discuss challenges in building epilepsy-training programs in Spanish Speaking Latin America. A speaker from the Caribbean will deliberate on use of QI projects to improve epilepsy care in areas with minimal resources. A nurse from Kenya will emphasize the role of nurses and clinical officers in poor resource region an important of establishing local training programs. Finally, Dr. Philip Pearl from the USA will moderate a panel discussion about ways to support training and improve epilepsy care in LMICs

2025

SIG | Health Disparities: Epilepsy in Rural Communities: Improving Access to Care

Overview

Geography plays a significant role in epilepsy care and can be crucial for timely and appropriate care. Geographical challenges include delays in initial diagnosis and decreased access to healthcare providers and treatments. This SIG will explore the healthcare challenges for people with epilepsy residing in rural communities. We will start with an overview of rural health disparities, followed by several case discussions. These will each focus on unique challenges for specific populations and ways to optimize care. Lastly, we will review general strategies to improve access to care in rural areas, with a focus on institutional, and systemic changes.

2024

SIG | Health Disparities: Health Disparities in Epilepsy - Building Bridges to Equity

Overview

Our session begins with a discussion of a real-life case about common barriers people with epilepsy (PWE) face every day. A moderated panel follows to propose ideas and potential solutions that could help bridge the gap for our most vulnerable populations and minoritized groups. We foster an environment of shared knowledge and collaboration by focusing on where the gaps exist in access to care, how to empower non-specialists in the field to care for our PWE, and how to develop clinics that will focus on addressing patients with high burden of social determinants of health.

2023

SIG | Health Disparities in Epilepsy: Creating a Roadmap for Action

Overview

We plan to use a case discussion followed by a moderated panel to promote discussion about Health Disparities (HD) solutions in people with epilepsy (PWE). We aim to increase and develop practical ideas in specific minoritized groups that can be emulated in other programs across the country. We wish to address specific groups including socioeconomic disparities, Low English Proficiency PWE, LGBTQA+ PWE and PWE with a high burden of social determinants of health. The goal is inspiring discussion that will drive innovative and viable ideas to mitigate disparities and achieve epilepsy health equity.

2022

SIG | Health Disparities: Moving Beyond Talk and Into Action

Overview

There is increasing recognition of the ubiquity of health disparities throughout medicine. Indeed, multiple studies have documented health disparities/inequities in epilepsy care and outcomes based on factors such as race/ethnicity, socio-economic deprivation and insurance status. While documentation of health disparities must continue, there must also be a push towards understanding the underlying factors, including systemic (e.g. the absence of a national health insurance system), provider-based (e.g. implicit bias, degree of cultural competency) and patient-based factors (e.g. cultural beliefs, limited health literacy).

The goals of the Health Disparities SIG are 1) to raise awareness of the rampant nature of health disparities/inequities in epilepsy, and 2) to better understand the specific factors contributing to these disparities in order to design effective interventions.

For 2022 we will start with a case presentation (a health disparity "M&M"), followed by speakers providing 1) a brief overview of documented health disparities in epilepsy (moving beyond rates of epilepsy surgery and into topics such as QOL and mortality), 2) our understanding of the underlying factors contributing to these disparities, and 3) examples of successful interventions. The speakers will be followed by an interactive panel discussion of possible interventions that could have prevented the negative case outcome.

2025

SIG | Ictal Semiology: Are there any truly localising seizure semiologies?

Overview

The aim is to prompt learners to relate subjective and observable seizure semiology to anatomical region(s) and networks, and to propose hypotheses localizing and lateralising seizure onset and propagation networks.

Panelists present a video to illustrate the seizure semiology, a description of the initial symptoms is provided.

The session format is interactive case discussion with audience members invited to comment and moderators curating the discussion over six cases. The final explanation is based upon neuroimaging, intracranial EEG and surgical outcome. Brief didactic material is delivered to highlight the learning points. The cases will range across cerebral networks.

2024

SIG | Ictal Semiology: Anatomo-clinical Correlation of Seizure Onset and Propagation

Overview

This session presents the learners how to relate subjective and observable seizure semiology to anatomical region(s) in order to construct a hypothesis of localizing seizure onset and propagation network. The session format is interactive case discussion. Five cases of typical or unusual seizures are presented. Each speaker presents a case in a video to illustrate seizure semiology. Both panel and learners are challenged in analyzing seizure semiology in detail and constructing a hypothesis of localization. The speaker gives the final explanation based upon neuroimaging, intracranial EEG, and surgical outcome. Brief didactic material is delivered.

2023

SIG | Ictal Semiology: Localization of Seizure Onset and Propagation Networks

Overview

The aim of this session is to present the audience how to use subjective and observable seizure semiology to localize the seizure onset and propagation network. The format of the session is interactive case discussion. Five cases of typical or unusual seizures are presented. Each presenter presents a case in a video to illustrate seizure semiology. Both panel and audiences are challenged in examining seizure semiology in detail and constructing a hypothesis of localizing seizure onset and propagation network. The presenter gives the final explanation based upon neuroimaging, intracranial EEG and surgical outcome. Brief didactic material is delivered.

2022

SIG | Ictal Semiology: Generators of Seizure Semiology: Localization and Propagation Patterns

Overview

The audience is invited to examine the seizures and stimulation responses to form hypotheses. The faculty will then comment on the material with brief discussion of clinical features. The presenter will give the final explanation based upon neuroimaging, intracranial EEG and the surgical outcome. Brief didactic material is delivered for each case. The format of the session is

interactive with the main aim to show the audience how to use subjective and observable clinical elements to localize the seizure onset and reconstruct the propagation pattern of the ictal discharge.

2022

SIG | Intractable Generalized Epilepsy: Prognosis, Therapies, & Deep Brain Stimulation

Overview

This SIG will be a discussion of topics pertaining to generalized epilepsy, discussing prognostic factors, and medical treatment strategies as well as current strategies for DBS implantation. The format will be a lecture format with three speakers allotted 20 min each to speak with 9 minutes for questions after each speaker. With 3 minutes for introductions and other insensible losses of time.

2021

Special Interest Group: Intractable Generalized Epilepsy

Title: Intractable Generalized Epilepsy

Overview

Treatment of generalized epilepsy in the genomic era continues to be challenging. Unlike its counterpart, focal epilepsy, curative options are limited. The multi-facet purpose of this Intractable Generalized Epilepsy Special Interest Group is to: i) Outline genetic criteria that will help to avoid misdiagnosis of GGE and identifying genetic findings relevant for drug response; ii) The role and practical approach of the ketogenic diet and its modified forms in the treatment of adult epilepsy; iii) Explore the role of Responsive Nerve Stimulation in generalized epilepsy. The main purpose of this SIG is to encourage the use of novel techniques for accurate diagnosis and treatment early rather than later in management, with the ultimate goal of better seizure control. While generalized seizures appear electrographically widespread on EEG, data indicates these seizures do involve specific networks, conferring the base for using VNS, DBS, Corpus Callosotomy, and more recent RNS targeting the anterior thalamic nucleus in appropriate cases. Clinical cases presented will cover a wide range of diagnostic and therapeutic dilemmas and their response to the above-mentioned interventions. This session is intended to help clinicians with options that will impact the treatment of intractable generalized epilepsy and its comorbidities.

2025

SIG | Magnetoencephalography: Is It a Time to Be Pumped up about Optically Pumped Magnetometers (OPMs)?

Overview

The evidence indicates that MEG can provide non redundant information improving surgical outcome yet remains underutilized. Current clinical MEG systems use sensors that require

cooling and are housed in fixed helmets limiting patient movements. Of late, recordings through on-scalp optically pumped magnetometers (OPMs) placed directly on the subject's head have received considerable enthusiasm. Yet, its potential for routine clinical use remains unknown. This didactic session will first review current state of practice using cryogenic MEG systems and its limitations then demonstrate preliminary research experience using OPM systems. Finally, a path towards clinical validation of OPM MEG systems will be discussed.

2024

SIG | Magnetoencephalography: Does Every Pre-Surgical Epilepsy Evaluation Deserve a MEG?

Overview

MEG has been shown to increase the number of surgical candidates but the optimal way to integrate it with other non-invasive testing to guide surgical treatment may be unclear to some epilepsy specialists. Additionally, data is reviewed showing how MEG can guide treatment decisions associated with neuromodulation. This didactic session addresses these issues by reviewing best practices for integrating MEG results into the surgical plan, from pre-surgical evaluation to invasive monitoring, to decisions regarding neuromodulation. Finally, access and utilization of MEG are discussed to determine barriers to its inclusion for every surgical evaluation.

2022

SIG | Magnetoencephalography (MEG): From Spikes to Seizures to Networks: Magnetoencephalography in Focal Epilepsy

Overview

Magnetoencephalography (MEG) is an integral diagnostic study in the presurgical epilepsy evaluation. Most commonly, MEG is an "interictal" study and localizes sources of interictal epileptiform activity. However, seizures occur in approximately 15-25% of MEG studies and the source analysis of ictal activity in MEG can provide useful information with respect to the seizure onset zone (SOZ). Furthermore, advanced analysis methods, beyond the conventional equivalent current dipole (ECD), using connectivity-based network analysis may better define epileptic networks. This special interest group organized by the American Clinical MEG Society (ACMEGS), will have three diverse speakers who will address MEG analysis from different perspectives: interictal activity, ictal activity, and network activity.

2025

SIG | Neonatal Seizures: Clinical Trial Readiness for Neonatal Seizures: Can We Prevent Epilepsy?

Overview

The field of neonatal neurology is in urgent need of novel therapies that stop acute provoked seizures and (ideally) prevent epilepsy. This session will address critical gaps by highlighting breakthroughs in anti-seizure and anti-epileptogenic treatments from animal models, challenges in translating these findings to neonatal clinical trials, and lessons learned from prior trials. Attendees will explore barriers to implementing novel therapies, promising strategies for

managing seizures, and approaches to reducing long-term neurological risks. Interactive polls will engage participants, fostering discussion and collaboration. By addressing these issues, the session aims to provide actionable insights to improve outcomes for neonates with seizures.

2024

SIG | Neonatal Seizures: Seizures and Neuromonitoring in Pre-term Infants

Overview

Advances in the recognition, diagnosis, and treatment of neonatal seizures in term infants have led to a greater need for understanding neonatal seizures in the pre-term brain. Unanswered questions in this unique and fragile population include which infants should be monitored, which antiseizure medications are safe and effective, and outcomes. This session addresses these gaps with a review of aspects of seizures and treatments and of the recently developed ACNS guidelines. The session ends with interactive polls and a debate on the pros and cons of treating seizures in the pre-term brain.

2023

SIG | Neonatal Seizures: Seizures in Neonates – Advances in Identification and Management

Overview

Neonatal seizures are difficult to clinically recognize depending on the seizure type. Over the past few years, there have been updates to our knowledge of neonatal seizures. The new neonatal seizure classification has clarified the seizure semiology and included EEG in the definition of neonatal seizures. It has also increased our understanding and heightened the importance of etiology and specific anti-seizure treatments. This SIG informs participants regarding the latest evidence based management of neonatal seizures and provides a platform for discussion for applying these guidelines in different practice settings while addressing challenges of access to care.

2022

SIG | Neonatal Seizures: Update on Treatment of Neonatal Seizures

Overview

Over the past few years, there have been updates to our knowledge about the treatment of neonatal seizures. Because most neonatal seizures are acute reactive seizures, it is important to correctly identify and treat neonatal seizures. This session will present a recent randomized control treatment trial that has added new knowledge to the field and defines all clinically available approaches. There is a recent ILAE systematic review to evaluate the current literature and update the existing WHO guidelines. It emphasizes how identifying the specific seizure type and epilepsy diagnosis can lead to personalized treatment. There is wide variability of practice with regards to stopping or continuing treatment with antiseizure medications for neonatal

seizures. At times, neonates are transported many miles from their homes for a higher level of care and may not have pediatric neurology follow-up or gaps in care following discharge. This important topic will be reviewed with emphasis on access to care. Finally, the panel discussion will be led by clinicians who will answer questions regarding how to provide appropriate care for newborns with high risk for seizures at the full spectrum of practice settings from academic hospitals to community NICUs.

2025

SIG | Neuroendocrinology: Early Life Hormonal and Immune Challenges in Epilepsy

Overview

Early life adverse events that alter or challenge the neuroendocrine system can lead to epilepsy later in life. This SIG will present findings of how neonatal brain injuries like stress, seizures, drugs, viral infections, or transient lack of oxygen activate neuroendocrine or neuroinflammatory systems that increase the susceptibility to seizures and the risk of developing epilepsy later in life. This SIG will raise awareness on how early life adverse events affect hormonal and neuroinflammatory pathways, will highlight common and distinct mechanisms and stir discussion on research avenues that will eventually impact clinical care, transitioning from symptomatic to disease-modifying treatment.

2023

SIG | Neuroendocrinology: The Influence of Sex Hormones on Neuronal Excitability from Mice to Humans

Overview

There is solid evidence that sex hormones and their neuroactive metabolites modulate neuronal excitability and neural network activity. Despite new breakthrough research findings, the clinical approach does not commonly incorporate consideration of sex hormones when treating seizures. This Neuroendocrinology SIG will highlight the necessity of a continuous dialogue between scientists and clinicians to bridge this gap. The speakers will present new animal models and clinical research findings on sex hormone actions that challenge the current dogma on how sex hormones influence neuronal function and offer novel perspectives on how to improve therapeutic options for patients living with epilepsy.

2022

SIG | Neuroendocrinology: Females and cycling hormones in epilepsy: Misconceptions, methods, mechanisms

Overview

There is much evidence that neural functions change with the female ovarian cycle (menstrual cycle in humans, estrous cycle in rodents) in ways highly relevant to seizures and epilepsy. However, misconceptions about the cycling hormones have led to hesitancy to incorporate female subjects, particularly in preclinical research. This reluctance hinders knowledge of which facets of seizure activity and susceptibility may change with the cycle, and which do not, which may provide insight regarding underlying pathophysiological mechanisms. This Neuroendocrinology SIG will highlight the necessity of inclusion of female animals and discuss preclinical studies demonstrating impacts of estrous cycle stage on excitability and seizure activity in different models of epilepsy. Collectively, the speakers will address the misconceptions and methodological concerns that have impeded incorporation of females and the menstrual/estrous cycle in epilepsy research. Finally, there will be a group discussion and debate regarding the best practices for applying strategies to incorporate female subjects and when and how to assess the cycling hormones in preclinical epilepsy research.

2025

SIG | Neuroimaging: Going off script: Novel imaging approaches to unconventional epilepsy challenges

Overview

Advances in neuroimaging and computation have combined to provide significant insights into the most common clinical challenges in epilepsy including seizure onset zone localization and treatment outcome prediction. These studies have benefitted from relatively larger sample sizes, homogeneous cohorts and well-defined outcomes. In this SIG we will focus on four diverse challenges that do not meet these general assumptions, and so require innovative neuroimaging approaches and emerging techniques to provide insight into previously uncharted aspects of the epileptic brain. We will end with an open discussion on strategies and advice on effective ways to design and implement unique imaging studies.

2024

SIG | Neuroimaging: Neuroimaging Biomarkers of Cognitive and Therapeutic Outcomes in Focal Epilepsy

Overview

Quantitative structural and functional imaging has improved our understanding of the underlying network changes in focal epilepsy. There is now evidence that these changes can be predictive of response to our treatment interventions. Nonetheless, epilepsy is a variable and evolving condition and quantifiable neuroimaging has not been consistently integrated into the clinical assessment of these different situations. In this SIG, we focus on new approaches and evidence related to the use of quantifiable neuroimaging to identify cognitive and treatment response in newly acquired, drug-resistant, and pediatric epilepsy. We focus on biomarkers that can be leveraged in clinical care.

2023

SIG | Neuroimaging: Clinical and Mechanistic Neuroimaging Assessment of Drug Resistant Epilepsies

Overview

Quantitative imaging can reveal network properties that may be associated with epilepsy etiologies and clinical trajectories related to anti-seizure medication response. Nonetheless, quantifiable neuroimaging markers have not been consistently integrated into the clinical assessment of epilepsies. In this SIG, we will focus on new approaches and evidence related to the use of quantifiable neuroimaging to identify and provide mechanistic insight of drug-resistant epilepsies in both children and adults. We will be particularly interested in discussing markers related to anti-seizure medications and how they can inform on the mechanisms underlying different epilepsy syndromes and be leveraged to improve future clinical workflows.

2022

SIG | Neuroimaging: Imaging of Cognitive Reorganization in Epilepsy

Overview

One of the most remarkable characteristics of the human brain is its ability to reorganize in response to injury, and this is frequently observed in patients with chronic epilepsy. This "injury" includes both early life insults (e.g., repetitive seizures) which can disrupt typical patterns of brain organization during development. Or, late events, such as surgical insults, which can promote re-organization of cognitive networks post-operatively. In this SIG, we will cover new evidence from functional neuroimaging of both pre- and post-operative re-organization of language and memory in both children and adults with epilepsy. This SIG will also cover how compensatory brain mechanisms can be leveraged to enable successful cognitive performance. Finally, we will describe how bilingualism and other sociocultural characteristics may influence cognitive re-organization and/or provide a means of cognitive reserve in patients with epilepsy. The SIG format will use a moderated panel of 3-4 experts and include both junior and senior investigators.

2025

SIG | Neuropharmacology: Use of anti-seizure medications in the era of AI and precision medicine

Overview

There have been several new anti-seizure medications (ASM) FDA approved for treatment of epilepsy in the last 5-6 years (for example: Stiripentol, Fenfluramine, Ganaxolone, Cenobamate). These medications have new mechanisms of action, novel drug-drug interactions, and unique side effects. The 2025 Neuropharmacology SIG will be addressing the mechanisms of actions of these new medications, use of EMR-integrated AI to guide the use of ASMs in different clinical scenarios, detection of drug-drug interactions, and use of ASMs in epilepsy treatment from a

precision medicine approach. Following the presentations, a moderated panel discussion will address questions from the audience.

2024

SIG | Neuropharmacology: Challenges in Immunotherapy for Epilepsy – Seizing Control Across the Ages

Overview

The utilization of immunotherapy as a therapeutic approach for epilepsy has garnered interest for its potential effectiveness in managing drug-resistant epilepsy. Yet, immunotherapy presents a complex set of challenges and clinical considerations requiring careful attention to optimize its application and management among infants, children, and adults. This SIG addresses the challenges and considerations with immunotherapy through interactive case-based learning that focuses on the pharmacologic mechanisms, dosing strategies, effective monitoring, navigation of drug interactions, mitigation of adverse effects, and factors determining treatment duration. Following the presentations, a panel featuring speakers with diverse clinical expertise offers additional multidisciplinary perspectives.

2023

SIG | Neuropharmacology: Medication Misadventures: Management of Anti-seizure Medication Adverse Effects

Overview

Anti-seizure medications (ASMs) are the mainstay of treatment for patients with epilepsy. However adverse effects from ASMs remain one of the leading causes of impaired quality of life, poor patient adherence, treatment failures, and increased risk of mortality and morbidity. Anticipating the adverse effects of ASMs and developing a structured plan for prevention, monitoring and management is imperative to optimizing pharmacologic treatment regimens for patients with epilepsy. The 2023 Neuropharmacology SIG will take an interactive case-based approach to recognizing and managing ASM adverse reactions with a focus on hypersensitivity reactions, cardiac, behavioral, and psychiatric side effects.

2022

SIG | Neuropharmacology: Anti-Seizure Medication Withdrawal: Who, What, and When?

Overview

The 2022 neuropharmacology SIG will take a deep dive into the process of anti-seizure withdrawal in three special patient populations – acute symptomatic/acute TBI patients, post resective surgery/neuromodulation patients, and infants who had neonatal seizures.

For effective learning, we will use case-based learning. The speakers will include relevant cases with questions to encourage audience participation during the session. The results will be reviewed on time by using Poll Everywhere or Zoom Poll (depending on meeting structure). The use of the poll feature enables the assessment of the knowledge level of the audience before and after the session as well as their knowledge improvement.

2025

SIG | Neuropsychology: The role of Neuropsychology in contemporary and cutting-edge epilepsy surgeries

Overview

The session will highlight the central role of Neuropsychology in cutting-edge neurosurgical interventions for the diagnosis and treatment of epilepsy. The topics canvas major areas of clinical challenge facing Neuropsychology in 2025, including minimally invasive surgical interventions, implantation of inhibitory interneurons derived from stem cells, and cognitive mapping via neurostimulation; including consideration of their implications for epileptogenic zones beyond the temporal lobes. This session will be of broad interest not only to adult and pediatric neuropsychologists, but also the many other disciplines who collaborate with Neuropsychology in the ongoing quest to improve diverse patient outcomes associated with these new technologies.

2024

SIG | Neuropsychology: Integrating Technology into Epilepsy Neuropsychology

Overview

Traditional pen and paper approaches are still the dominant method by which cognitive and psychological information are gathered in epilepsy neuropsychology. The field has been slow to incorporate new technologies and approaches despite their potential to improve the efficiency and availability of neuropsychology. Harnessing technology to electrophysiological methods also offers the potential to further our mechanistic understanding of neuropsychological dysfunction in epilepsy. This SIG brings together a panel of experts in these techniques, encompassing both junior and senior investigators working in pediatric and adult epilepsy. Each provides a brief presentation, followed by a moderated panel discussion.

2023

SIG | Neuropsychology: Mapping Cognition in Epilepsy: From the Lab to the Clinic

Overview

Advanced functional mapping methods are necessary for the comprehensive presurgical evaluation of cognition in epilepsy. These methods include functional magnetic resonance imaging (fMRI), subdural mapping, and stereoelectroencelphalography (sEEG). Important sociocultural factors, such as bilingualism, need to be incorporated in functional mapping

methods and conceptualization. The SIG format uses a moderated panel of experts in these methods and includes both junior and senior investigators.

2022

SIG | Neuropsychology: BIG Data in Cognition in Epilepsy: Clinical and Research Utility

Overview

The purpose of this learning activity is to identify and explore how Big data can provide a mechanism to study large numbers of individuals with epilepsy to better understand risk factors and cognitive phenotypes associated with cognitive difficulties and cognitive changes in epilepsy. Utilizing these big datasets will also advance clinical care and clinical decision making, and enable development of personalized neuropsychological care. Four speakers will provide information about their projects that incorporate the use of clinical data across multiple sites. Each speaker has a different focus including pediatric data from a large network, cognitive data from brain mapping, a large dataset from Australia, and adult data from multiple sites using a data harmonization approach. Each speaker will present an overview of their projects and we will have a 30-minute panel discussion to review the barriers and opportunities of developing larger datasets. Additionally, there will be discussions about how to grow these data networks to utilize multiple sites providing access to more data to improve our understanding of cognition in epilepsy. This learning activity is relevant to the learner's professional practice by providing additional information to inform our understanding of the impact of epilepsy on cognitive abilities.

2025

SIG | Patient Centered Epilepsy Care: Measuring and assessing patient preferences

Overview

Clinical care guidelines often suggest certain courses of treatment with the recommendation that treatment should be individualized, yet rarely do clinical practice guidelines inform how to go about ascertaining and acting upon individualized patient preferences. Patients vary in their health priorities, yet literature suggests that physicians may misestimate patient preferences or not even ask about patient preferences before recommending interventions, which may lead to treatment decisions not concordant with a patient’s underlying values. This SIG seeks to discuss case studies exemplifying available techniques for assessing and communicating patient preferences for their care to optimize outcomes.

2024

SIG | Pediatric Epilepsy Case Discussions: Spotlight on Infantile Epilepsy Syndromes – How Can We Optimize Outcomes?

Overview

Defining epilepsy syndromes in infancy remains clinically useful to guide investigations, treatment options, recognize comorbidities, and enable prognostication. There is a complex

relationship between underlying etiology and epilepsy syndrome. There is lack of familiarity of the classification of the electroclinical features of infantile epilepsy syndromes among the epileptologist, neurologists, and advanced practice providers. This Pediatric SIG explores the latest scientific knowledge on the classification, treatment approaches, advances in etiology-based management and global-issues related to care of infantile epilepsy syndromes. Each speaker supports the learning objectives with a case that illustrates the developments in epilepsy diagnosis and management.

2023

SIG | Pediatric Epilepsy Case Discussions: Difficult Discussions in the Pediatric Epilepsy Clinic

Overview

There are many difficult conversations that arise in the pediatric epilepsy clinic every day. We chose three such discussions and present a case each related to the topics, followed by a presentation focusing on the important aspects of the selected topic and how to best address these topics in the clinic with patients and families. Each speaker will discuss a case and recommendations for addressing the topic in the clinic for 20 minutes followed by 10 minutes of an interactive discussion with the audience.

2022

SIG | Pediatric Epilepsy Case Discussions: Complex and intractable infantile onset epilepsy – a medical and a surgical case

Overview

This year we aim to discuss two cases of complex and intractable epilepsy of infancy. One case will be an infant who presented with status epilepticus, and later diagnosed with an intractable genetic epilepsy. Second case will be of a patient with infantile onset intractable epilepsy that later in the course of the disease had a successful epilepsy surgery. We will use an interactive case discussion format involving all the faculty members. One faculty will present the case overview, and at each critical point during diagnostic work up and treatment steps, pose questions to the faculty as the clinical story unfolds. Additionally, audience remarks and questions will be taken as well at key points during and at the end of each case. The chair and co-chair will moderate and participate the discussion of one case each. In-coming vice chair will be presenting one case. Each case will be discussed for 45 minutes allowing ample time to bring forth the complexities of diagnosing and treating epilepsies in this young population. Our SIG will stimulate discussion from the panel of experts as well as the audience debating best management options in each case while weighing benefits and risks of different clinical approaches.

2021

Special Interest Group: Pediatric Epilepsy Case Discussions

Title: Pediatric Epilepsy Case Discussions: Diagnostic and Treatment Challenges

Overview

For more than 20 years, this special interest group has provided an engaging platform to share complex challenges in the management of pediatric epilepsy. Early-career and seasoned epileptologists from both academic and private centers worldwide have the opportunity to explore and interact around illustrative clinical experience.This year, this SIG highlights pediatric cases demonstrating the importance of precision medicine and treatment options for epilepsy due to genetic etiologies.

2025

SIG | Post-traumatic & Military Epilepsy: Mortality in Post-traumatic Epilepsy: Basic Science to Artificial Intelligence

Overview

Post-traumatic epilepsy (PTE) is a significant problem in military (and non-military) populations. Emerging research demonstrates that PTE is associated with higher rates of treatment-resistant epilepsy (TRE), lower socioeconomic status, and other gaps in social determinants of health, mental health comorbidity, and early mortality. Research also suggests that these factors all interact, leading to potentially preventable mortality. This session uses an interactive case discussion that integrates basic science, clinical research, and artificial intelligence approaches to identify biological, clinical, and social factors associated with mortality outcomes in people with epilepsy and PTE.

2024

SIG | Post-traumatic & Military Epilepsy: Research

Overview

Traumatic brain injury (TBI) is a major etiology for epileptic and nonepileptic seizures in both the civilian and military population and the development of new treatments hinges on collaboration among basic, translational, and clinical TBI investigators. This Post-traumatic & Military Epilepsy Research SIG brings together benchtop and clinical investigators to meet this need. In this SIG, speakers present their latest research in animal models and patient populations. Time at the end of the SIG is reserved for open discussion among the speakers and attendees to brainstorm new research pathways to improve the lives of patients with post-traumatic seizures.

2025

SIG | Practice Management: I Can Charge For That? Getting Paid for Work You’re Already Doing

Overview

The landscape of health care policy continues to evolve with significant implications for daily neurological practice. This didactic session provides a high yield overview of reimbursement concepts important for neurologists at all career stages. Saavy clinicians in the field will discuss various real-world strategies for managing the high volume of patient portal/phone messages, provide tips for operationalizing new CPT codes and discuss successful models for improving ambulatory access with an emphasis on sustainability, physician wellness and promoting high quality patient care. This SIG remains unique with a focus on operations, financial sustainability and outcome measures with support from the literature.

2024

SIG | Practice Management: Advanced Practice Practitioners – More Than a Physician Extender

Overview

Access to high-quality epilepsy care correlates with improved outcomes; nonetheless, patients requiring such care continue to outstrip supply. One increasingly popular strategy to improve access to epilepsy care is enhancing the work force through incorporation of advanced practice providers (APPs) into practices. This strategy poses challenges in terms of training, operations, and revenue. This SIG presents several institutions' models involving successful incorporation of APPs into quality epilepsy care, including the perspectives of APP and physician leaders. This SIG remains unique with a focus on operations, financial sustainability, and outcome measures with support from the literature.

2023

SIG | Practice Management: Optimizing Your Practice, Getting the Time and Resources You Deserve

Overview

Building an epilepsy practice is particularly daunting when clinicians and administrators seem to disagree. This Practice Management Special Interest Group provides clinicians with tools to successfully partner with administrators and obtain the resources and support needed to provide patients with the highest level of care.

The speakers in this diverse panel will address how to obtain funding for three critical elements of a thriving epilepsy practice: ample clinic time, subspecialty clinic services, and EEG reviewers.

As always, this SIG remains unique with a focus on successful programs, overcoming obstacles, financial sustainability and outcome measures with support from the literature.

2022

SIG | Practice Management: Navigating Specialized Services in an Epilepsy Program

Overview

The 2022 Practice Management Special Interest Group focuses on topics essential to build and maintain a strong and sustainable epilepsy practice in today's complex and evolving world.

Epilepsy is a significant cause of disease burden across the globe, with the estimated proportion of those with active epilepsy being between four and ten per 1,000 people. As the world's population ages and grows, there is an ever-increasing need for quality epilepsy AND subspecialty care. The process of building an epilepsy practice can be daunting due to complexities of healthcare systems, access limitations, and the need for multidisciplinary care to deliver treatments to patients and families living with epilepsy.

The speakers for this session come from diverse experiences and backgrounds and will address four critical elements of a successful epilepsy practice: subspecialty epilepsy services, the epilepsy navigator, the role of a physician liaison, and the non-epileptic seizure clinic.

As always, this SIG remains unique in that it provides a broad review of the topics presented including a description of the highlighted program, obstacles to implementation, benefits to clinical care, financial sustainability, outcome measures, and a literature review to illustrate how the program fits in to a larger clinical and practice management context.

2025

SIG | Pregnancy Outcomes: Pregnancy Registries: update, outcome and future direction of precision medicine

Overview

Despite availability of numerous antiseizure medications (ASMs), pregnancy outcomes for the majority remain uncertain, especially newer ASMs. Furthermore, commonly used ASMs during pregnancy, like levetiracetam and lamotrigine, there are still some uncertainty regarding individual risk. A knowledge gap persists, undermining care and placing women and their offspring at increased risk for adverse outcomes. Emerging questions also surround the outcomes of fertility treatments and their impact on epilepsy care.

This SIG will present the latest updates from the largest international registries and the most prominent neurodevelopmental studies on these important issues, followed by interactive expert panel discussion.

2024

SIG | Pregnancy Outcomes: Non-pharmacological Treatment for Epilepsy

Overview

In the past, the pregnancy outcomes SIG focused on antiseizure medications. But our knowledge about the effects of non-pharmacological treatment for epilepsy on pregnancy outcomes is limited. This year's SIG focuses on pregnancy outcomes of patients treated with epilepsy surgery, neuromodulation, or dietary therapies. The invited experts present up-to-date data from literature review, multicenter studies, and pregnancy registries, followed by a moderated panel discussion. Our SIG provides the opportunity for AES attendees to review the constantly evolving data and be able to optimize treatment and counselling of this vulnerable group of patients.

2023

SIG | Pregnancy Outcomes: Pregnancy Registries: Updates, Outcomes, and Future Directions

Overview

This year's SIG will re-focus on the latest updates from the largest international registries and the most prominent neurodevelopmental studies. Information from pregnancy registries often takes many years to be incorporated into guidelines making this platform an essential opportunity to bridge this gap in knowledge. Our SIG will provide the opportunity for AES attendees to review the constantly evolving data and be able to optimize their treatment and counselling of this vulnerable group of patients. Our experts will be presenting pivotal data on teratogenesis and neurocognitive outcomes related to ASMs which will be followed by a moderated panel discussion.

2022

SIG | Pregnancy Outcomes: Neurocognitive Outcomes in Adolescents, Fertility, Depression and Folic Acid Use

Overview

This SIG will provide information on the fertility considerations in women with epilepsy (WWE) and folic acid and its use and effects in WWE during pregnancy. This SIG will also discuss how postpartum depression effects neurocognitive outcomes for children of women with epilepsy with new findings being shared by the Maternal Outcomes and Neurodevelopmental Effects of AEDs study and neurocognitive outcomes in adolescent children of WWE per the Kerala registry. In addition, experts will discuss a case on the management in a women with epilepsy.

2023

SIG | Professional Wellness in Epilepsy Care: Of Hearth and Home: Professional Wellness After Hours

Overview

Medical professionals are vulnerable to burnout and profound work stressors. The impact of stressors on clinical practice and work-based strategies for burnout prevention are common topics of discussion. However, the impact of burnout on home life is less frequently discussed but has profound implications for quality of life. In this special interest group, we will have two engaging speakers discuss the impact of stress and burnout on sleep and family, along with strategies to mitigate its impact. We will then have an opportunity for an extended panel discussion and an opportunity for participants to share their personal experiences and solutions.

2022

SIG | Professional Wellness in Epilepsy Care: Clinician Burnout: Causes, Consequences and Cures

Overview

The format of this session will consist of a combination of invited speakers, audience participation, and panel discussion. The first talk will describe Biomarkers of Burnout to include biochemical, physiological, and anatomical aspects of the disorder as a basis for ideas for approaches to interventions. Coaching distinct from mentoring and advising has been of great value to professionals and has been shown in a few studies to benefit those in the healthcare industry. The second talk will describe the role of coaching healthcare professionals gained from their experience at a nationally recognized center for professional wellbeing. The other parts of the session will include audience participation to describe the progress and successes of wellbeing initiatives in their departments. The session will conclude with a panel discussion and audience polling on the above topics and related issues.

2021

Special Interest Group: Professional Wellness in Epilepsy Care

Title: Professional Wellness in Epilepsy Care

Overview

This year's SIG will have a thematic focus on interventions and their implementation for individual and group wellness to increase professional health in the workplace. Reading, narrative medicine, and medical humanities are being recognized as means to gain perspectives and interactions with others to increase resilience and wellbeing. Evidence-based assessment of wellness suggests that only mindfulness and coaching have proven efficacy. The SIG will address how initiatives in the area of promoting wellness in Neurology can be more successfully implemented once pilot projects are proposed. AAN, a sister organization of AES, has programs to train future leaders that could be easily applied to the field of epilepsy empowering professionals to develop self-care and employee wellness and take the best care of patients with seizure disorders.

2025

SIG | Psychogenic Non-epileptic Seizures: Personalizing treatment of Functional Seizures (FS) in Diverse Populations

Overview

This presentation is a panel discussion followed by Q&A. People with functional neurological disorder with attacks or seizures (FNDsz) are a heterogeneous population. Recent reports of the care available to people with FNDsz reveals not only poor access to such care, but also non-standardized pathways of care and little mention of diversifying care to encompass the broad range of people affected by the disorder. This compounds the mismatch of the prevalence of FNDsz and the availability of treatment options.

2024

SIG | Psychogenic Non-epileptic Seizures: Evidence-based Guidelines for the Management of PNES/Functional Seizures

Overview

Evidence-based guidelines play an important role in improving and standardizing patient care. Guidelines are especially important in disorders like PNES/functional seizures where there is a lack of formal clinical training and a rapidly expanding body of evidence. In this SIG, we review clinical practice guidelines, their advantages and limitations, the reasons why evidence-based guidelines might be especially beneficial in the management of functional seizures, and the steps that must be taken to create such guidelines. We also collect feedback on a draft guideline from clinical and research experts in the field of functional seizures.

2023

SIG | Psychogenic Non-Epileptic Seizures (PNES): Cognitive impairment in PNES: From Mechanisms to Therapeutic Approaches

Overview

Cognitive complaints are frequent in patients with psychogenic nonepileptic seizures (PNES). These deficits can significantly interfere with the ability of patients to participate in treatment and may further contribute to disability. This session will include a review of updated assessment tools to identify and characterize cognitive deficits and understand their functional impact. Various etiological mechanisms behind cognitive impairment in PNES will be discussed. Finally, therapeutic approaches to address cognitive symptoms in PNES will be proposed. The session will include an interactive Q&A panel discussion, where cases will be reviewed.

2022

SIG | Psychogenic Non-Epileptic Seizures (PNES): Update on neuroimaging of PNES and other FNDs

Overview

In the last 10 years, the field has made a great progress in identifying many structural and functional underpinnings of PNES/FNDs. Several large PNES/FND neuroimaging studies have been conducted and results have been reported. In this context, the presenters will discuss the recent findings of structural (e.g., voxel based morphometry), structural connectivity (diffusion MRI and application of advanced structural connectivity measures), resting state functional connectivity, fMRI task (e.g., valence or stress induction) studies, and EEG studies.

2025

SIG | Psychosocial Comorbidities: Whole Person Health: Prioritizing Care Partner Well-Being in Epilepsy

Overview

This SIG provides an understanding of roles Care-Partners play in epilepsy and the impact of caregiving on health and well-being; with emphasis on physical, psychosocial, and economic variables. The overall objective is to assist healthcare professionals in supporting caregivers and targeting services toward those most in need. We will elucidate variances in the challenges of the caregiver role across the lifespan. Data surrounding burden, HRQOL, affiliate stigma, and an effective peer support program will be shared. Lived-experience speakers will provide insight into breadth of Care-Partner roles. Moderated discussion will enable thought sharing around Care-Partner well-being and relevant strategic interventions.

2024

SIG | Psychosocial Comorbidities: Psychosocial Burden and Suicidality in Epilepsy

Overview

This SIG provides an update on the current understanding of psychosocial burden, self-harm, and suicide in epilepsy. The session focuses on biopsychosocial underpinnings, features of patients at highest risk of self-harm and lifetime variance. Data surrounding high-risk subpopulations inclusive of DRE, post-surgical patients, and patients with PNES and mixed epilepsy/PNES are shared. Evidence-based self-management programming supporting patients at highest risk of self-harm and depression are discussed. Moderated audience discussion enables thought sharing around the challenges of identification, intervention, and treatment, allowing for potential innovative management strategies relevant to multidisciplinary clinicians and community social service networks.

2023

SIG | Psychosocial Commorbidities: Strengthening Multisector Engagement to Address Social Challenges in Epilepsy

Overview

This SIG will explore nuances in the social domains of family, education, employment, and relationships in epilepsy. Emphasis on the coordination of epilepsy-specific services to address social comorbidities is vital. This SIG will review common social challenges and examine impact and outcomes, offering practical strategies to integrate clinical care with support at the community level. An emphasis on population based approaches and evidence based programming, inclusive of enhancing screening for social comorbidities and referral options to improve care will be discussed. Panel/audience discussion will allow for innovative management strategies relevant for clinicians, epilepsy centers and community networks to be shared.

2022

SIG | Psychosocial Comorbidities: Autism and Epilepsy: From Theory to Practice

Overview

This SIG will address the common clinical comorbidity of autism spectrum disorder and epilepsy, and suggest practical management strategies from experts. Speakers will address theoretical underpinnings of the comorbidity as well as offer practical management strategies to address complex phenomenology and identification of targets for treatment. Time will also be allotted for audience participation in order to consider creative management strategies that will be relevant for a wide variety of clinical circumstances.

2025

SIG | Quality and Safety: Late to the Table: Closing the Gap to Timely Epilepsy Surgery

Overview

Despite significant advances in the diagnostic evaluation and treatment of epilepsy, access to timely epilepsy surgery remains a challenge. The average delay to surgery for patients with drug-resistant epilepsy can reach 20 years, with profound consequences for seizure control, mortality, and quality of life. This session will delve into the multifaceted barriers to epilepsy surgery at the level of the patient, provider, and healthcare system, and highlight actionable strategies to overcome these obstacles and promote timely access to surgery.

2024

SIG | Quality and Safety: Transition of Care for Adolescents with Epilepsy

Overview

Transitioning adolescents with epilepsy, especially those with comorbid IDD and/or autism, poses numerous challenges. This phase, marked by increased autonomy, academic stress, and neurobiological changes, brings unique concerns for neurotypical teens, while parents of those with epilepsy face anxieties about the shift to adult care. Addressing these complexities, our session delves into the comprehensive dynamics of transitioning. Experts explore medical, emotional, psychosocial, and practical facets, equipping participants with a toolkit for safe transition. The goal is to navigate the intricacies involved in moving a teenager from the pediatric to the adult epilepsy clinic, ensuring continuity and quality care.

2023

SIG | Quality and Safety: Optimizing Interventions for Status: Bridging Gaps Between Protocol & Practice

Overview

Despite the mantra “time is brain,” status epilepticus (SE) treatment is often too little, too late, whether from suboptimally dosed benzodiazepines or from delayed administration of a second-line anti-seizure medication. In clinical practice, treatment of status epilepticus spans a variety of settings and requires real time coordination among multiple stakeholders, including EMS, ED staff, pharmacists, nurses, neurologists, and non-neurologist physicians. This panel will explore

the barriers to rapid treatment for this neurological emergency, interventions to optimize status epilepticus treatment, and ways to measure patient outcomes.

2022

SIG | Quality and Safety: Algorithms for Optimizing Epilepsy Surgery: the Present and the Future

Overview

Epilepsy surgery is one of the most effective therapies in our field. As such, epilepsy surgery is a critical component of high quality epilepsy care. Yet the application- from identifying potential candidates for evaluation to choosing a specific surgical intervention to predicting seizure outcomes- is incredibly complex. Furthermore, elements of this process may be overly driven by anecdotal evidence or subjective biases.

With medicine's current ability to capture and analyze a wide range of data, our field stands well-positioned to make better decisions about epilepsy surgery. To practice this "precision medicine", we need well-informed algorithms to optimize patient outcomes.

In this session, we will have a panel of experts discuss current algorithms for epilepsy surgery, review the strengths and limitations of using algorithms to aid treatment decisions, and outline future research endeavors to make such algorithms more robust.

2025

SIG | Seizure and Cerebrovascular Disease: Post-stroke epilepsy across the spectrum of life: from conception to death.

Overview

Stroke accounts for more than half of diagnosed cases of epilepsy in the elderly but may occur in utero and affects individuals throughout their lifespan. Recent surges in stroke prevalence among patients aged 18 to 55 years suggest that this segment of the population may now be at greater risk of post-stroke epilepsy. As a consequence, stroke outcomes could be profoundly modified by the development of epilepsy. This SIG will showcase the latest research on seizure treatment across the lifespan and advances on the impact of seizures on stroke outcomes. We will discuss the concepts/evidence based on representative cases.

2024

SIG | Seizure and Cerebrovascular Disease: Post-stroke Epilepsy Prevention Journey – How Close Are We to the Destination?

Overview

Post-stroke epilepsy (PSE) accounts for ~12% of the prevalent epilepsy burden and is the most common preventable epilepsy, especially among older adults. Recent developments, including basic science breakthroughs, in PSE prognostication model-enriching anti-epileptogenesis trials with high-risk patients and completion of such trials raise hope that the search for the holy-grail of epilepsy care – epilepsy prevention – may be headed in the right direction. This SIG showcases

the latest research on PSE animal model, approaches to PSE prediction, and post-stroke anti-epileptogenesis trials. There is a brief Q&A after each presentation and a moderated panel discussion at the end.

2023

SIG | Seizure and Cerebrovascular Disease: Seizure after Stroke: Impact of Anti-Seizure Medication Prophylaxis & Treatment

Overview:

This SIG will showcase three unique research perspectives on the use of primary and secondary anti-seizure medication (ASM) prophylaxis after ischemic and hemorrhagic stroke. There will be a brief Q&A after each presentation as well as a moderated panel discussion at the end of the group session.

2022

SIG | Seizures and Cerebrovascular Disease: Seizures After Stroke: Location, Reperfusion, Risk Stratification & Biomarkers

Overview

Our first speaker will discuss role of stroke location and reperfusion treatment (including IV or IA thrombolysis and mechanical thrombectomy) in development of post stroke seizures. Our second speaker will discuss early imaging biomarkers based on MRI and CT perfusion as well as EEG in identifying risk of post ischemic stroke seizures, and whether the combination of these data streams can help predict post-ischemic stroke epilepsy. Our third speaker will discuss role of biomarkers (including role of functional and miRNA-mRNA networks) to predict which subgroup of patients are at higher risk of developing late seizures after ICH as potential biomarkers for post-ICH late seizures.

2025

SIG | Seizures in Autoimmune Encephalitis: Beyond the Antibody: Other immune mechanisms in Epilepsy

Overview

Speakers will focus on immune mechanisms of epileptogenesis as seen in systemic immune disorders, autoimmune encephalitis and NORSE. Implications of and current applications in treatments will be discussed.

2024

SIG | Seizures in Autoimmune Encephalitis: Autoimmune Encephalitis-Associated Epilepsy

Overview

Autoimmune encephalitis-associated epilepsy was recognized as a separate entity from acute symptomatic seizures secondary to autoimmune encephalitis in 2020 by the International

League Against Epilepsy Autoimmune Taskforce. Since then, both entities have been approached clinically as separate conditions, with different responses to immunotherapy. Here, we focus on the management of autoimmune conditions with an enduring predisposition to seizures, in which competing etiologies (cytotoxic T cell mediated neuronal injury and structural damage) make practical management considerations challenging. We discuss practical implications for the distinction from acute symptomatic seizures, including consequences on management and the prioritization of immunotherapy.

2023

SIG | Seizures in Autoimmune Encephalitis: Expanding the Clinical Spectrum and Recent Advances in Diagnosis and Treatment

Overview:

The clinical spectrum of presentations of autoimmune encephalitis and epilepsy, as well as our understanding of disease mechanisms and treatment regimens, is rapidly developing. Since the characterization of anti-NMDA receptor encephalitis over a decade ago, several new clinical entities have been identified. Greater clinician awareness of newly discovered autoimmune epilepsies and their typical clinical presentations will result in earlier recognition and more accurate diagnosis of autoimmune epilepsy. Greater understanding of the diagnostic and treatment algorithms will result in more timely and appropriate treatment and lead to improvement in outcomes.

2022

SIG | Seizures in Autoimmune Encephalitis: Focus on Diagnosis and Treatment Trials

Overview

We propose that the 2022 Seizures in Autoimmune Encephalitis SIG highlight recent updates in the clinical presentation, diagnosis, and treatment of autoimmune encephalitis. The format will include three presentations by a moderated panel, followed by an interactive question and answer session. The session will introduce suggested terminology for seizures in autoimmune encephalitis and autoimmune-associated epilepsy, clinical features of autoimmune encephalitis with special attention to seizure and EEG phenotypes, clinical prediction scores to aid diagnosis, treatment consensus guidelines, and updates on ongoing treatment trials, including special considerations for trial design in autoimmune encephalitis.

2025

SIG | Sleep and Epilepsy: Brain flow dynamics and sleep alterations effect on epilepsy

Overview

Sleep and epilepsy interact at a macro level. Recent discoveries elucidated mechanisms of interactions between sleep and epilepsy. A very exciting discovery in the area is the glymphatic system and the blood-brain barrier (BBB) contribution to epilepsy. Therefore, we would like to

dedicate this session to brain flow dynamics and sleep alteration effect on epilepsy and seizures. The BBB and the glymphatic system maintain brain homeostasis, while their dysfunction may manifest in different brain disorders including epilepsy. We propose a session shedding light into this field and opening a new direction of research to develop mechanistic biomarkers and future therapies.

2024

SIG | Sleep and Epilepsy: Biological Rhythms, Brain Development, and Chronotherapy in Epilepsy

Overview

Sleep has optimal quality when it occurs during the sleep phase of the circadian cycle. However, seizures can adversely affect these relationships. This SIG presents the most recent data on the relationships between biological rhythms and seizures, how these affect the developing brain, and discuss potential paths towards treatment of circadian disorders in epilepsy patients.

2023

SIG | Sleep in Epilepsy: Broken Sleep in Epileptic Encephalopathy: Challenges for Patients and Caregivers

Overview

The Sleep Epilepsy Workgroup hosts a Moderated Panel presentation that reviews how the pathophysiology of severe epileptic encephalopathies affects normal sleep and circadian function, what role these dysfunctions play in brain development and prognosis, and how disrupted sleep affects patient-caregiver dyads.

2025

SIG | Status Epilepticus: Ictal-Interictal Continuum: New Diagnostic Frontiers and Possible Brain Damage

Overview

Ictal-interictal continuum (IIC) represents a diagnostic challenge and it is widely debated whether this EEG pattern is potentially harmful for the brain. Recent advances in EEG signal analysis and neuroimaging techniques have changed paradigms in the field. This SIG provides a comprehensive overview of the latest advancements in diagnosis and treatment of IIC as well as novel insights into mechanisms of potential brain injury. Three talks will focus on cutting-edge topics: use of advanced EEG signal analysis for identifying high-risk patterns for brain injury, role of neuroimaging in determining brain damage in IIC and novel treatment approaches.

2024

SIG | Status Epilepticus: Novel Advanced Methods in Status Epilepticus Diagnosis and Prognosis

Overview

Diagnosis and prognosis of status epilepticus is often challenging, resource demanding, and far from being perfect. Recent advances in signal analysis and artificial intelligence (AI) are potential

game-changers in this field. This SIG gives an overview on novel, advanced methods for diagnosis and prognosis in status epilepticus, with focus on clinical implementation. The three talks focus on three cutting-edge topics: use of AI in EEG of critically ill patients, neuroimaging in diagnosis of status epilepticus, and using machine learning to predict prognosis of status epilepticus.

2023

SIG | Status Epilepticus: Controversies in Status Epilepticus: Treat Aggressively or Not?

Overview:

While Status Epilepticus is a neurological emergency, there is no standard algorithm for treatment of Non-Convulsive Status Epilepticus(NCSE) or Focal aware Status Epilepticus(FaSE). This interactive session challenges different institutional approaches, which range from conservative to aggressive, and are largely based on expert opinion. Different clinical scenarios of NCSE and FaSE require complex treatment approaches. This SIG provides a platform for discussion of available basic science and clinical evidence, and offers new perspectives regarding treatment and outcomes. The session is carried out in a debate format to enhance engagement of the audience and to ignite a future consensus in the field.

2022

SIG | Status Epilepticus: Focal Status Epilepticus: Therapeutic Approach and Response to Therapy

Overview

This Special Interest Group will address the complex management approach of focal status epilepticus (FSE), from resolution of epileptic EEG patterns to clinical outcomes. The current topic will integrate the lessons learned from the FSE pathophysiology, EEG patterns, and clinical features discussed in the previous session, and will focus on the therapeutic approaches through interactive case discussions.

Successful clinical trials are well known and their proposed treatment algorithm for convulsive status epilepticus is frequently used for FSE treatment. There are potential valuable lessons that can be learned from failed clinical trials and these can advise therapeutic approaches for refractory cases.

Rationale for therapeutic failure will be addressed by discussing specific animal models and human studies with focus on their proposed mechanism. The EEG patterns associated with status epilepticus, benefits of rapid EEG systems versus prolonged EEG monitoring will be discussed. Clinical epilepsy treatment, including timing, medication doses, and their route of administration as possible causes for preventable failed therapy will be evaluated via interactive clinical cases.

This session’s objectives are to offer a platform for discussion of treatment options for status epilepticus and to provide a new perspective on the medical algorithm, to help clinicians avoid delays and improve outcomes.

2025

SIG | Stereoelectroencephalography: Overcoming challenges in SEEG Explorations: The Missing Electrode

Overview

Identifying and localizing the epileptogenic zone is the cornerstone of successful epilepsy surgery, as it directly determines surgical success and patient outcomes. SEEG has become a transformative tool for pinpointing the EZ, offering precise, three-dimensional recording capabilities that enable personalized approaches to epilepsy care. However, despite its growing adoption, significant challenges remain in optimizing SEEG procedures, particularly in planning electrode trajectories and interpreting incomplete recordings.
The absence of critical electrode trajectories ("missing electrode") can impact the diagnostic process. It may create gaps in the spatial coverage of epileptic networks, leading to incomplete EZ localization, and ultimately compromising surgical outcomes.

2024

SIG | Stereoelectroencephalography: Planning SEEG and Tailoring Surgery to Avoid Language and Memories Deficits

Overview

The stereoelectroencephalography (sEEG) is an established and safe pre-surgical method for delineating epileptogenic networks in patients with medically refractory epilepsy. In addition, the method allows the mapping of specific functional networks not only to characterize their participation in seizure semiology, but also to map their anatomical interface with epileptic cortex and predict post-operative neuropsychological outcome. The session introduces, in a progressive and didactic fashion, different basic and practical aspects of the sEEG method to characterize language and memory networks, their functional interactions with the epileptogenic networks, and ultimately predict post-surgical language and memories outcome.

2023

SIG | Stereoelectroencephalography (sEEG): SEEG SIG: The SEEG Methodology Applied to Pre-Frontal Epilepsies

Overview:

Pre-frontal epilepsies are surgical remediated epilepsies that are amenable for stereotaxic explorations using the SEEG methodology. The proposed session has the overreach goal to present, in a progressive, practical, and didactic fashion, different basic and clinically relevant aspects of the SEEG method applied to the pre-frontal epilepsies. The speakers will actively

interact with the audience through a progressive journey, starting with basic conceptual aspects related to anatomy and electroclinical correlations (talk 1 and 2), transitioning to a practical and controversial presentation related to the technical nuances in SEEG implantations and guided surgical approaches related to the topic (talk 3).

2022

SIG | Stereoelectroencephalography (SEEG): SEEG methodology applied to Temporal Lobe Epilepsies

Overview

Stereoelectroencephalography (SEEG) is an established and safe method for interrogating epileptogenic networks in patients with epilepsy. SEEG enable local field potential recordings from deep cortical structures, identifying the epileptogenic zone (EZ) in a three-dimensional manner, and record epileptic activity across multilobar cortical areas. Temporal lobe epilepsies are common surgically-remediable epilepsies that are amenable for stereotaxic explorations using the SEEG methodology. The proposed session has the intention to present, in a progressive, practical, and didactic fashion, different clinically relevant aspects of the SEEG method applied to temporal lobe epilepsies. The speakers will take the audience through a progressive journey, starting with basic conceptual aspects (talk 1), transitioning to the clinical, epileptological nuances of anatomical electroclinical correlations in temporal lobe epilepsy (talk 2), and finally closing with a practical and controversial presentation related to the different SEEG guided approaches related to temporal epilepsies (talk 3).

2025

SIG | SUDEP: Mechanisms of seizure-induced cardiac and respiratory impairment

Overview

SUDEP is the most common cause of epilepsy-related mortality. Most SUDEP cases are believed to occur after a seizure and ultimately results in cardiac and/or respiratory arrest. Both cardiac and respiratory impairment are noted during and after seizures. This SIG will bring together clinical and basic scientists who are within the field of epilepsy to educate the audience on mechanisms of cardiac and respiratory impairment related to seizures and epilepsy, and how these impairments may contribute to SUDEP. The session will be composed of four 15-minute presentations, followed by moderated panel discussion prompted by questions from the audience.

2024

SIG | SUDEP: Sleep Biomarkers of Sudden Unexpected Death in Epilepsy

Overview

SUDEP is the leading category of epilepsy-related death. Evidence suggests respiratory dysfunction after a GTCS as the central mechanism of death. SUDEP frequently occurs during the night, in sleep. In addition, sleep deprivation has been frequently reported in SUDEP victims prior to death. This SUDEP SIG introduces important topics that link sleep, respiration, epilepsy and

SUDEP. The presentations composes the first 60 min of the SIG (four 15-min talks) and sets the stage for a concluding 20-min panel discussion, prompted by questions from the audience.

2023

SIG | SUDEP: Sudden Unexpected Death in Epilepsy (SUDEP) From the Top Down

Overview:

Sudden Unexpected Death in Epilepsy (SUDEP) is likely multifactorial, in this session we will look at SUDEP from the "top" on down–from mechanisms that might extend seizure effects throughout the brain to the role of socioeconomic disparities on SUDEP risk. We will bring together clinical and basic scientists from diverse backgrounds spanning epilepsy research. The presentations will compose the first section (four 15-min talks/5 min Q&A) and set the stage for a concluding 10-min panel discussion. The discussion will be prompted by a set of questions the moderators share with the panelists in advance and by questions from the audience.

2022

SIG | SUDEP: SUDEP through the lens of non-traditional semiologies, genes and models

Overview

Most SUDEP is thought to be associated with cardiorespiratory collapse in the immediate aftermath of a generalized tonic-clonic seizure. Genetic SUDEP risk is usually ascribed to mutations in ion channel genes that affect brain and heart rhythms. However, sometimes SUDEP cases do not fit neatly into these categories, providing important exceptions to the 'rules' that can yield important information to help unlock the secrets of SUDEP. From a basic science perspective, the majority of what is known about SUDEP physiology and genetics comes from work in mouse models. However, other types of models exist which can provide critical insights not possible in mice. Thus, this SIG will explore less traditional forms of SUDEP, focusing on examples exhibiting non-canonical semiology and genetic causes. Less widely used non-mouse models of SUDEP will also be discussed considered. To educate the audience on these topics, we will bring together both clinical and basic scientists from diverse backgrounds spanning neurology to engineering. The presentations will compose the first 60 min of the SIG (four 10-min talks with 5-min Q&A) and set the stage for a concluding 30-min panel discussion. The discussion will be prompted by questions/discussion points from the audience and questions from the moderators.

2025

SIG | Temporal Lobe Club: Anterior Temporal Lobectomy Failures: Networks, Neuropsychology, and Next Steps

Overview

This session will explore the challenges of failures after anterior temporal lobectomy (ATL) for temporal lobe epilepsy, addressing both technical and diagnostic failures as contributors to

suboptimal outcomes. Despite being a standard procedure, ATL does not always achieve optimal seizure control or quality of life. Through focused lectures and an interactive panel discussion, the session will examine the role of temporal lobe networks, neuropsychological outcomes in patients with good seizure control but poor quality of life, and strategies for managing post-ATL failures. Attendees will gain practical insights into surgical outcomes, challenges, and next steps for improving patient care.

2024

SIG | Temporal Lobe Club: Balancing Seizure and Cognitive Outcomes in Temporal Lobe Epilepsy Surgery

Overview

Drug-resistant temporal lobe epilepsy is the most common substrate in patients considered for epilepsy surgery. Decisions to proceed with surgery versus not, and plans of how to design the surgical treatment, are largely driven by needing to balance the likelihood of achieving seizure-freedom (better with more aggressive intervention) with the risk of cognitive side effects. The current landscape of epilepsy surgery offers multiple therapeutic options, including resection, laser ablation, and neuromodulation, each offering its pros and cons. This session offers a cutting-edge discussion through two debates, consecutively tackling seizure and cognitive outcomes, followed by a panel discussion engaging the audience.

2023

SIG | Temporal Lobe Club: Temporal Lobe Epilepsy Across the Lifespan

Overview

This SIG explores variations of temporal lobe epilepsy across the lifespan. Temporal lobe seizures in young children often result from distinct etiologies, involve specific networks and require early surgical treatment. How does this effect prognosis and cognitive function? In adults, we increasingly understand that disease course depends on etiology. We will go back to the question, what can cause epilepsy in an otherwise healthy young adult? Last, we will shed light on the elderly population and discuss interactions between seizures, aging and dementia. Overall, this SIG will discuss how brain age influences the presentation, comorbidity and prognosis of TLE.

2022

SIG | Temporal Lobe Club: Novel Surgical Therapies

Overview

Novel approaches have been developed to surgically treat temporal lobe epilepsy. This SIG will review these newer techniques, discussing new therapies that are currently in use and those under investigation in humans. Topics will include implantation of inhibitory neurons in mesial temporal lobe; focused ultrasound, thermal ablation, and radiofrequency ablation methods;

neuromodulation with electrical stimulation and ultrasound; and network changes resulting from focal modification of the epileptic network.

2025

SIG | Tuberous Sclerosis Complex: Tuberous Sclerosis Complex: Epilepsy Management Across the Lifespan

Overview

Although treatment of epilepsy in Tuberous Sclerosis Complex (TSC) has advanced, unanswered questions remain. Could we prevent epilepsy in TSC by treating prenatally (as is done for cardiac rhabdomyomas)? How should we interpret and treat the subclinical seizures frequently seen in young children with TSC? Are adolescents and adults with TSC being offered equitable access to surgery, neuromodulation and newer medications? Are we adequately addressing co-morbid neuropsychiatric manifestations (TAND symptoms) across the lifespan? In this SIG, clinicians and researchers gather to tackle these questions with a series of thought-provoking presentations followed by an interactive discussion with the audience.

2024

SIG | Tuberous Sclerosis Complex: Clinical Trials for Epilepsy TSC – Lessons Learned and Future Perspectives

Overview

Biomarkers that predict impending drug-resistant epilepsy in TSC have enabled randomized controlled trials with pre-sympomatic treatment. These trials are changing clinical practice but optimal timing and long-term epilepsy and neurodevelopmental outcomes are not yet known. Other trials have focused on adjunctive treatment. and with TSC-specific approval these medications potentially alter treatment protocols for established epilepsy. The large phenotypic heterogeneity in TSC calls for a more individualized approach with novel patient-centered trial design. This session brings together clinicians and trialists to share their expertise and experience through thought-provoking presentations and a debate, followed by an interactive discussion with the audience.

2023

SIG | Tuberous Sclerosis Complex (TSC): Epilepsy Surgery for Everyone with Tuberous Sclerosis Complex?

Overview:

Tuberous Sclerosis Complex (TSC) represents a model system for epilepsy surgery and one with increasing evidence to suggest that more patients are candidates. Despite this, epilepsy surgery remains an underutilized intervention in TSC. Complex epileptogenic networks, clarity on who is a candidate, and access to care are some of the barriers that prevent more patients from receiving and benefiting from surgical intervention.

This session brings together clinicians and families to share their expertise and experiences through presentations followed by time for interactive discussion with the audience.

Development. Please refer to aesnet.org/AES2023-accredited for a complete list of accredited sessions.

2022

SIG | Tuberous Sclerosis: TSC Classification: clinical, physiologic, genetic, imaging prognostic features

Overview

Advances in the understanding of the biology of Tuberous Sclerosis Complex (TSC) have revealed variability in the phenotypic expression of this condition in our patients. Recent insights from clinical, physiologic, genetic and imaging discoveries will be described at this SIG, with the overall aim of developing a broad classification scheme in TSC that will inform more individualized treatment approaches. We will also include 3 authors from among the very highest-rated TSC abstracts, that are most related to this SIG topic, in a short and interactive format.

2025

SIG | Tumor-related Epilepsy: Managing Epilepsy at the Intersection of Anti-Seizure and Tumor-Directed Therapy

Overview

A moderated panel will discuss the complexity and synergistic roles of anti-seizure medications and tumor-directed therapy in optimizing seizure control in patients with brain tumor-related epilepsy. The speakers will discuss the latest evidence and novel approaches to define seizure risk longitudinally and ameliorate seizure-related burden on quality of life based on individualized tumor profiles, treatment status, and response over the course of disease. This interactive SIG will bring together a multidisciplinary community of epileptologists, neuro-oncologists, neurosurgeons, and neuroscience researchers invested in the care of people with brain tumor-related epilepsy.

2024

SIG | Tumor-related Epilepsy: Dynamics at the Neuron-Glioma Interface

Overview

A moderated panel discusses the compelling evidence of bidirectional interactions between peritumoral neuronal activity and glioma growth. The group discusses novel pathways underlying glioma-related epilepsy and their clinical relevance in advancing targeted therapeutic opportunities to improve seizure control. This SIG brings together a multidisciplinary community of epileptologists, neuro-oncologists, neurosurgeons, and neuroscience researchers invested in the care of people with brain tumor-related epilepsy.

2023

SIG | Tumor-Related Epilepsy: Invasive Monitoring in Tumor Related Epilepsy: Why, When, and How

Overview

A moderated panel will discuss the modalities used for invasive monitoring for different tumor types in new versus recurrent tumor operations. The group will discuss decision making with the use of different invasive monitoring modalities to address both tumor resection and epilepsy resection, including outcomes.

2022

SIG | Tumor Related Epilepsy: Establishing Standards of Care in Medical Management

Overview

The goal of this SIG will be to review topics in the medical management of tumor-related epilepsy (TRE) along the disease timeline with a focus on evidence-based standards of care, whether they exist or need to be developed. This will be accomplished through a moderated panel of experts in the field and will cover topics such as the perioperative use of anti-seizure medications (ASMs), first-line medications, the role of neuropathology in TRE, standards of care for medical management in the neuro-oncology clinic, management of refractory TRE, and guidance on withdrawal of ASMs.

2024

SIG | Translational Research: Fast Forward to Epilepsy Therapies in 2027

Overview

What will epilepsy treatment look like in 2027? This Translational Research SIG highlights a few of the pharmacological, cellular, gene-modifying, and stimulation therapies poised for Phase 1-3 clinical trials. Speakers explain the science behind select therapies, and the process of getting these treatments from bench to bedside. After presentations, the audience has an opportunity to engage the panel in a question and answer session. Clinicians and trainees are equipped to explain these next-generation therapies to their patients and non-specialist researchers will appreciate how complementary approaches will change the future of epilepsy treatment.

2022

SIG | Translational Research: Commercializing academic research: An industry perspective

Overview

The Proposed SIG will consist of 4x 15 minute presentations from members of biotech industry partnering with academic researchers in the development of new therapeutics (drugs, cellular/genomic therapies or devices) followed by a 30 minute panel discussion. The talks and discussion will address what industry is looking for in their partnerships with academia, the basics of regulatory issues, IP issues, business plans, targeted product profiles, and other tasks

necessary for successful translation of research to therapeutics. The session will also highlight common challenges with collaborating with academic researchers from the industry perspective.

2025

SIG | Women's Issues in Epilepsy: Approach to anti-seizure level monitoring during pregnancy

Overview
This SIG will focus on reviewing the current literature and expected pharmacokinetics changes of anti-seizure medications (ASM) during pregnancy and utility of monitoring levels to guide care. Despite now growing evidence that supports changes in all ASM, there is variable practices on how to approach levels management. This SIG will focus on the current literature, pharmacokinetics principles and lively case discussion to elucidate the importance of checking levels and how to manage ASM monitoring during pregnancy. This session will include a panel lecture and case discussion

2024

SIG | Women's Issues in Epilepsy: Folic Acid Dosage in Childbearing Age – A Healthy Debate

Overview
The risk of neural-tube defect is reduced by folic acid supplementation around the time of conception. The US Preventive Services Task Force recommends a daily supplement of 0.4 to 0.8 mg of folic acid for women of childbearing age. In contrast, high-dose folic acid greater than 1 mg daily is hypothesized to increase risk for autism spectrum disorder and is associated with increased risk of cancer in children of mothers with epilepsy. This SIG brings on heated debate among epilepsy experts for evidence-based views of low-dose versus high-dose folate supplementation in women with epilepsy.

2023

SIG | Women's Issues in Epilepsy: Controversies in Caring for Women with Epilepsy

Overview

This session aims to discuss controversies in caring for women with epilepsy. We will present four cases addressing different controversial topics that arise when caring for women with epilepsy. An expert panel will have the opportunity to respond to each case with their opinion about how they would counsel the patient and/or manage the particular case. The audience will be encouraged to participate

2022

SIG | Women's Issues in Epilepsy: Aging, Menopause, and Bone Health in Women with Epilepsy

Overview
This SIG will review the current best evidence and expert advice for the care of women with

epilepsy undergoing hormonal changes during menopause and their common comorbid issues with epilepsy. We have two invited speakers who will present on a topic of caring for women with epilepsy around menopause and review best practices for improving bone health, optimizing the choice of antiseizure drugs, and treating osteoporosis. Finally, our panel of experts will answer questions with participation from the audience.