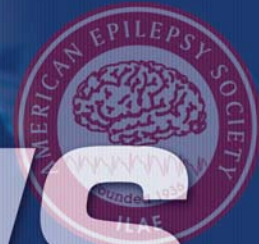


# AES NEWS



## New Initiatives for AES

AES has a long-standing history of planning strategically and has benefitted from our ability to set a direction for the Society. Strategic thinking and planning has been effective because of the dedication of volunteers such as you. The Board of Directors met in the fall of 2009, continued working through the winter and finalized the updated Strategic Plan this spring. The plan outlines some exciting new opportunities for the Society that will involve input and involvement from members.

The plan identifies four major strategic initiatives that fit within our organization's mission to promote research and education for professionals dedicated to the prevention, treatment, and cure of epilepsy. The strategic initiatives are:

1. Supporting excellence in education and research.
2. Enhancing the ability of professionals to provide high quality clinical care to persons with epilepsy through AES programs and services.
3. Forging external relationships to raise awareness and in support of education and research on the wide spectrum of epilepsies.
4. Building financial resources to achieve sustained growth and longevity.

The initiatives are defined by specific outcomes and recommended actions that should be accomplished by December, 2011. Committee and Task Force Chairs have been invited to identify the outcomes that are appropriate for their group and develop actions or activities that the committees and task forces will perform to accomplish these outcomes. The outcomes are stated broadly enough that multiple actions can be identified to accomplish them. Several proposed actions have already been drafted by the Board to get the process started.

### Supporting excellence in education and research

The Board drafted three initial outcomes for this initiative. The first is to increase research and training programs from \$600,000 to \$1,200,000 a year in five years. Some of the specific actions to accomplish this outcome are already underway. A new clinical research training fellowship in Susan Spencer's name is being developed in partnership with the AAN and Epilepsy Foundation. Another action will be to identify areas of research funding need. This activity has been assigned to the Research & Training Committee.

As part of this initiative on excellence in education and research is an outcome to generate access to leading edge information on epilepsy. Actions under this outcome include refreshing content on the AES Web site, which has been assigned to the Web Content Committee, and publishing content from the Annual Meeting in *Epilepsy Currents*. The Communications Committee will also be working on actions for this outcome.

Another outcome in this initiative is to create an ongoing capacity to provide state of the art educational programs for members. One action already in progress is an effort by the International Relations Committee to develop a TeleMedicine program. Other actions being planned are developing a process to evaluate non-CME programs at the Annual Meeting and developing a way to allow for more electronic community and networking among members.

### Enhancing the ability of professionals to provide high quality clinical care

Two outcomes have been identified under this initiative. The first is to lead the development and dissemination of policies, practice standards, practice parameters and checklists either solely or in partnership with other relevant organizations. Actions to achieve this outcome include the ongoing efforts to create EMU safety standards by Patty Shafer and the EMU Symposia group. Another

*(continued on page 10)*

## Come to Texas for the 64th Annual Meeting

This year's Annual Meeting will be held in San Antonio, Texas from December 3 through 7 in the Henry B. Gonzalez Convention Center. The online brochure with details on programs and registration will be available in June at [www.AESnet.org](http://www.AESnet.org).

San Antonio's old world Spanish flair and blend of cultures make it one of America's most picturesque cities. San Antonio's sights, sounds, tastes and past captivate, while friendly people, the relaxing river and a superb climate entice visitors to come back for more. Stroll the cobblestone paths of the River Walk and dine al fresco at the bistros and cafés that line the river. Visit the Alamo and other historic landmarks or one of many museums that document the historical significance of this area.

Hotel reservations are now open (<http://www.aesnet.org/go/meetings-and-events/annual-meeting>). Five hotels are available with room rates ranging from \$148 to \$210 for a single room. The Marriott Rivercenter will be our Headquarters Hotel. New for 2010 — A registration discount of \$50 is offered to all attendees who confirm a hotel room through Experient, the official AES Housing Bureau. This discount applies to all those who confirm a reservation and complete all registration and payment requirements by Friday, October 29. The discount code AESSAT10 must be used at the time your registration is submitted.

New this year is a Social Network Group reception on Saturday night. This will provide an opportunity for SIGs to continue networking and for other small groups to gather and exchange ideas. More information will be provided during the year on what groups are planning to get together during this activity.

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**AES News** is published three times a year by the American Epilepsy Society, American Branch, International League Against Epilepsy.

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#### Editorial Deadlines

Fall 2010 – August 16, 2010  
Winter 2011 – January 2011  
Spring/Summer 2011 – May 4, 2011

Membership consists of clinicians, scientists investigating basic and clinical aspects of epilepsy, and other professionals interested in seizure disorders. Members represent both pediatric and adult aspects of epilepsy.

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# FROM THE PRESIDENT



Dear Fellow Members:

It gives me tremendous pleasure to report on the activities of our Society. Much has happened in the past several months in the area of patient care, education, research and advocacy for epilepsy.

The president signed into law a healthcare reform bill in March, which promises to improve access to healthcare for all Americans. The law is complex and its impact on care of patients with epilepsy remains unclear. AES has formed a Task Force under the leadership of Dr. Page Pennell, Vice Chair of the Practice Committee, to help us understand ways to improve patient care under this new law. The Task Force will work with

the Epilepsy Foundation and other stakeholders to bring to bear some of the best expertise in this area. One topic of the Hot Topics Symposium during the Annual Meeting of our Society in December in San Antonio will be the impact of healthcare reform on epilepsy care.

Our practice of epileptology continues to evolve. The Food and Drug Administration (FDA) has approved generic formulations of multiple anticonvulsants over the past several years. These formulations continue to arrive in our market and change patient care. Lower costs of these medications improve access but many patients and fellow physicians have been anxious about the bioequivalence of these drugs to the brand name drugs and to one another. A Task Force has proposed testing bioequivalence of generic and brand name drugs in a peer-reviewed clinical trial that would meet FDA regulatory standards. It has produced a position statement outlining the view of the epilepsy experts on this difficult issue. This statement is included in our newsletter.

Deep brain stimulation was evaluated by an expert advisory panel of the FDA recently. Dr. Dennis Spencer represented AES at that hearing and explained the need for novel treatments for epilepsy. Another expert advisory panel of FDA met to evaluate ACTH as treatment of infantile spasms, where AES was represented by Dr. Bill Gaillard. ACTH has been used for a long period of time for treatment of infantile spasms and AES and the American Academy of Neurology in their practice parameters for treatment of infantile spasms have recommended treatment with this drug. The expert panels recommended approval of ACTH and anterior nucleus of thalamus stimulation. Final FDA ruling is expected soon.

This is one of the most exciting years to be involved in epilepsy research. National Institutes of Neurological Disorders and Stroke (NINDS) announced a series of new initiatives related to epilepsy research this year. These include a EUREKA award for epilepsy research and awards in translational research and multidisciplinary research awards. These represent unique and new opportunities for our members to advance their research in causes, mechanisms and treatment of epilepsy. This boost in funding for epilepsy research comes at an opportune moment because multiple novel technologies and research methods have emerged over the past few years, which could greatly enhance the impact of epilepsy research.

The Annual Meeting Committee and AES staff continue to make preparations for our Annual Meeting. Preparations are being made for major plenary sessions, symposia, Annual Course, investigator workshops and special interest group meetings. We will also make efforts to evaluate the quality of all educational programs within the Annual Meeting. We hope that we can use these evaluations to improve the quality of our annual programs. This year we have introduced a new mechanism for social networking on Saturday night. We hope many groups will organize and take advantage of this opportunity and come together to continue to meet and network.

There are some changes in the program itself and the Presidential Symposium will be held on Saturday, December 4. In addition, we are making efforts for better attendance at Poster Sessions. There will be two hours for viewing posters every day when no other sessions will compete for an audience. Please take time to attend these sessions. They bring the most up to date research to our meeting; provide opportunity for junior members to showcase their work, and are an opportunity to meet with peers.

Education and networking are year long efforts. We are creating opportunities for networking through changes in our Web site, which will provide opportunities to form groups that are linked through the Web site. We hope some of the existing special interest groups will take advantage of these online social networks. We also hope that some of the committees will be able to meet by phone and internet more effectively thus reducing pressure on the Annual Meeting.

AES helps the efforts of all organizations involving various aspects of epilepsy by organizing a group call Vision 2020. This group has been meeting through the past year and has made tremendous progress towards commissioning an Institute of Medicine (IOM) report on epilepsy. IOM reports are often very effective in focusing the attention of policy makers, legislators, press and general public on a health-related problem. Recent reports on falls in hospitals, resident work hours, vaccines, etc., have impacted policy and public perception. Dr. Wanda Jones of the Department of Health and Human Services is working with our own Dr. Frances Jensen to coordinate government and non-government efforts. The non-government groups working with AES are Citizens

*(continued on page 3)*

# Epilepsy Clinic in Haiti Needs Continuing Support

## Call Issued for Creole- or French-Speaking Volunteers

Lionel Carmant, M.D., who has just returned from a temporary visit as a volunteer at the epilepsy clinic in Haiti, reports that healthcare services in the earthquake-ravaged country remain desperate.

Dr. Carmant says, "More than twice as many patients, including epilepsy patients and hundreds with other healthcare needs have been seen at the epilepsy clinic in Port-au-Prince than were seen at that facility in the 18 months prior to the quake."

The number of new neurological disability cases, including individuals with epilepsy, in the earthquakes aftermath are estimated at 6,000, excluding the high number of individuals with posttraumatic stress disorder and amputees.

The Port-au-Prince epilepsy clinic has the only EEG equipment in Haiti, including a portable unit donated for the present crisis. Employees at the facility are now able to travel to the general hospital and to NGO treatment centers with the portable unit providing EEG services for a variety of other suspected conditions.

MRI and other imaging technologies do not exist in Haiti. Thus epilepsy surgery cannot be done in the country. The nearest MRI is in the Dominican Republic where epilepsy surgeries recently started to be performed, again with the collaboration of the ILAE North American Commission.

Medical volunteers will be needed at the epilepsy clinic for at least the next six months. However, the lack of living accommodations remains a major problem. Dr. Carmant is looking for volunteers — ideally physicians — who might be willing to spend one week, so there is a neurologist every two months at the clinic for the next six months to follow-up on the more complicated patients.



A newborn with neonatal seizures undergoing EEG evaluation in a tent housing the neonatal care unit at the University Hospital. The hospital's pediatric pavilion was destroyed by the earthquake. Ten babies were being treated in the tent when this photo was taken.

Dr. Carmant is concerned that volunteer organizations are beginning to withdraw from Haiti leaving the country with a major unresolved crisis in healthcare and general recovery. "Haiti needs projects that are sustainable by local personnel," he says. "And it will take a significant transfer of knowledge to bring the population to an adequate level of self-sufficiency."

The Port-au-Prince epilepsy clinic, the only epilepsy center in Haiti, needs our continuing support for equipment, supplies and building repairs. Contributions can be made by visiting the AES Web site at [www.aesnet.org](http://www.aesnet.org) under AES updates. Click on "Epilepsy Clinic in Port-au-Prince."



The Port-au-Prince epilepsy clinic's EEG technologist with the Comet Portable EEG system donated by Grass Technologies. The clinic, which has the only EEG machines in Haiti, has used the portable unit at the general hospital and at several NGO health centers for evaluation of patients with epilepsy and a variety of other suspected conditions.

### From the President

Continued from page 2

United for Research in Epilepsy (CURE), Epilepsy Foundation (EF), National Association of Epilepsy Centers (NAEC), International League Against Epilepsy (ILAE), Tuberculous Sclerosis Alliance (TSA), Epilepsy Therapy Project (ETP), Rasumssen's Children's Project, International Dravet Syndrome Action League (IDEA), Parents Against Childhood Epilepsy (PACE) and Hemispherectomy Foundation. The report is expected to be commissioned in the fall of 2010 and the institute takes 12-18 months to issue a report.

Finally, I want to end by saying that we want to hear from you. Please feel free to contact the AES staff or me directly using the email address of [president@aes.org](mailto:president@aes.org) to relay your concerns, thoughts and ideas of how we can

improve the functioning of AES. The Society benefits greatly from your suggestions, your volunteer efforts and creative ideas. I look forward to reading your messages.

Sincerely,

**Jaideep Kapur, M.D., Ph.D.**

# FROM THE BOARD ROOM

## An Interview with Board Member Kevin Staley, M.D.



Kevin J. Staley, M.D. is the outgoing Chair of the Research & Training Committee and an Ex-Officio member of the Board of Directors. He is the Joseph P. and Rose F. Kennedy Professor of Child Neurology and Mental Retardation, Harvard Medical School; Chief, Pediatric Neurology, Massachusetts General Hospital and principal investigator at the Pediatric Epilepsy Research Lab at

Massachusetts General Hospital. The lab studies how neuronal ion transport and synaptic plasticity alter the spread of epileptic activity in neural networks. In addition to chairing the Research & Training Committee which has three sub-committees, he is currently a contributing editor for *Epilepsy Currents* and serves on the Council on Communications and the Vision 2020 Committee.

**Q How long have you been a member of AES? Why did you join?**

**A** I've been a member since 1989. I was a member of the Prince/Mody lab at Stanford and AES membership was expected. I hoped to learn more about epilepsy at the Annual Meetings.

**Q Looking back, what have you gained from membership?**

**A** I have learned an enormous amount about epilepsy. I gained immediate access to experts in the field. This included hallway conversations and other casual situations as much as formal lecture settings. That access helped steer my career toward epilepsy and away from other areas of translational neuroscience. The biggest benefit of membership to me is the continued access to experts in the field.

**Q Would you encourage a colleague to join?**

**A** Yes, absolutely. I require AES membership for those working in my lab. I tell my postdocs that benefits of membership include review of their work by experts in the field and the opportunity to discuss similar research with investigators at all levels.

**Q What are your greatest accomplishments from your committee work at AES?**

**A** I am glad to have been able to democratize the IW proposal mechanism so that all AES members can submit IW proposals. Although it is not a personal accomplishment, I am happy to have been part of the process to bring the two-year Susan Spencer Clinical Research Training fellowship to fruition.

**Q Why do you think this committee has a seat on the Board of Directors?**

**A** Research and training, along with education, are the central missions of the AES. The Society allocates a substantial amount of resources toward achieving these goals, and the Board needs to know how the resources are being spent, what the results are, and what plans we have for the future.

**Q Please describe your role as an Ex-Officio member of the Board of Directors.**

**A** I participate in open board meetings, present the activities of the Research & Training Committee and present and explain the research portion of the budget.

**Q How would you describe the work of the Board of Directors of AES? What do you see as their responsibilities?**

**A** The Board of Directors provides strategic direction for AES. They are responsible for crafting the appropriate AES response to a variety of events, from the stock market downturn and changes in pharmaceutical educational spending that affected AES investment and meeting income, to working with other agencies to promote epilepsy care and research.

**Q What have you learned from volunteering at AES and how have you applied that knowledge elsewhere?**

**A** I learned how to guide the activities of committees comprised of volunteers from very disparate backgrounds. I learned what a board of directors does and I learned how to present a budget.

**Q What should newer members do to work their way into leadership positions?**

**A** We all have areas of particular expertise, and for most of those areas there is a relevant AES committee! In my case I began serving on the Investigators' Workshop Committee. This was an activity in which I had participated for years and over that time I had accumulated lots of ideas for improvements. It's great that AES publishes the list of committees and their rosters every year in the AES Membership Directory and on the Web — these are very useful resources for members looking for a place to contribute. Talking to Chairs and members of committees of interest is a very useful next step.

## Take an Active Role in AES

The Society currently has more than 40 active Committees, Sub-committees and Task Forces. Since this is a Strategic Planning year, the number of task forces and workgroups is likely to increase. In addition to new task forces or workgroups being formed during the year, committee seats rotate every three years allowing new people to get involved. You can get on the volunteer list by filling out the form on the AES Web site under the About AES Tab, Committees (<http://www.aesnet.org/go/about-aes/committees/committee-signup/take-an-active-role-in-aes>). All committee placements are done based on the information you provide. Your preferences are tracked in a database and maintained for three years. We cannot promise placement, but will do our best to get you involved. Placements begin in the fall of 2010 for 2011 activities.

# NINDS UPDATE

## NINDS Update for AES — May 5, 2010

By Brandy Fureman, Ph.D.



In March, the National Institute of Neurological Disorders and Stroke (NINDS) announced two new initiatives with set-aside funding to accelerate research on the epilepsies. These programs are the Epilepsies Exceptional, Unconventional Research Enabling Knowledge Acceleration (EUREKA) initiative, and the Cooperative Program in

Translational Research for Resistant Epilepsy and Epileptogenesis. Further details, deadlines and contact information are found in the individual links below.

Additional funding opportunities for specific challenges related to the Epilepsy Research Benchmarks ([http://www.ninds.nih.gov/research/epilepsyweb/2007\\_benchmarks.htm](http://www.ninds.nih.gov/research/epilepsyweb/2007_benchmarks.htm)) are also planned. Please continue to watch the NIH Guide and AES updates for announcement of these opportunities.

### NINDS Epilepsies EUREKA Program

The National Institute of Neurological Disorders and Stroke is seeking applications proposing exceptionally innovative research that could have a transformative effect on biomedical or biobehavioral research in the epilepsies. These disorders involve disruption of basic neurobiological functions at all levels, including cellular/molecular biology and genetics, cognitive/behavioral and systems neuroscience, neuroplasticity, and neurodevelopment. Investigators from outside the field of epilepsy are strongly encouraged to submit applications to this funding opportunity announcement that apply knowledge from these areas to bring potentially paradigm-shifting approaches to the study and/or treatment of the epilepsies. Investigators who are currently working in epilepsy research are encouraged to submit applications on highly innovative concepts that cannot be supported through other research mechanisms. Applications from new collaborative teams are particularly encouraged. Applications are due August 13, 2010. A brief letter of intent, due July 13, 2010, is encouraged but not required. For additional information, please view the Request for Applications at: <http://grants.nih.gov/grants/guide/rfa-files/RFA-NS-11-003.html>.

### NINDS Cooperative Program in Translational Research for Resistant Epilepsy and Epileptogenesis

NINDS is also announcing a call for applications for translational research to support preclinical development of new therapies to cure epilepsy, prevent the emergence of epilepsy in high-risk groups, or to better treat individuals with intractable epilepsy. The program will facilitate solicitation, development, and review of therapy-directed projects to accelerate the translation of basic research discoveries into therapeutic candidates for clinical testing. This program is specifically directed at projects that include therapeutic leads with demonstrated activity against the intended disease target. The program supports preclinical optimization and testing of these leads and projects must be sufficiently advanced that an Investigational New Drug (IND) or Investigational Device Exemption (IDE) application to the FDA can be submitted by the end of the project period. This is a milestone-driven cooperative agreement (U01) program involving participation of NIH staff in the development of the project plan and monitoring of research progress. A letter of intent should be submitted for U01 applications thirty days prior to the application due date (standard dates apply). An exploratory (R21) program is also available to support projects intended to complete preliminary steps in the pipeline. Such projects, if successful, should lead directly to a subsequent project that will include all remaining activities for submission of IND or IDE application to the Food and Drug Administration (FDA). For more information, please view the Funding Opportunity Announcements at (U01): <http://grants.nih.gov/grants/guide/pa-files/PAR-10-144.html> and (R21): <http://grants.nih.gov/grants/guide/pa-files/PAR-10-143.html>.

## AES Leadership Participates in 2010 Epilepsy Walk and Public Policy Institute in Washington, D.C.



Staff and leadership at the 2010 walk on a brisk morning.

AES and the Yale Team sporting their purple ball caps.



AES Board members pose along the way.

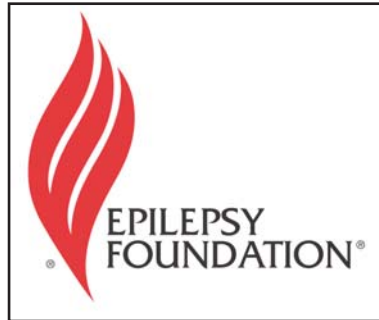


President Jaideep Kapur addresses the parents and families gathered at the 2010 Epilepsy Foundation Public Policy Institute.

# EPILEPSY FOUNDATION UPDATE

## Inspiring Support of the Epilepsy Cause

By Chris Merritt, Director, Communications



The morning of March 27 was chilly, but the cold did not deter thousands of people who were touched in some way by epilepsy from turning out bright and early to walk for epilepsy. The 2010 National Walk for Epilepsy was the biggest and best ever — thanks to the people with epilepsy,

their families, friends and the healthcare professionals who showed up on the National Mall in Washington, D.C., to show their support. Over 5,000 people raised \$1 million to help the Epilepsy Foundation increase awareness of epilepsy, create programs for people with seizures, and bring us closer to a cure. Since it began four years ago, the National Walk for Epilepsy has attracted more than 25,000 people and raised more than \$4 million.

Thousands gathered to walk not only towards a cure for epilepsy, but to share personal stories and provide a voice for the millions affected by the condition. And the American Epilepsy Society was a part of it. The AES Team, wearing their distinctive neon-green scarves, raised over \$15,000, the highest amount of any company or organization team! Clearly, the members, staff and leadership of AES are committed to improving the lives of people who have seizures. I hope you feel a sense of pride knowing you are part of a group that makes a difference in so many ways for people with epilepsy and their families.

The AES Team, together with the other 2010 Walkers, helped bring us closer to the day when people with seizure

disorders are able to participate in all life's experiences. We appreciate the support of those from AES who came out this year and hope even more will attend next year's Walk to experience the power and pride that such a gathering evokes.

That week, celebrities also came to Washington to Talk About It! and advocate for issues important to people with epilepsy and their families. The celebrities included Walk Chair Greg Grunberg from NBC's *Heroes* as well as NFL greats Alan Faneca of the Arizona Cardinals, Jason Snelling of the Atlanta Falcons and Geoff Pope of the Philadelphia Eagles. AES President Dr. Jaideep Kapur was instrumental in updating the advocates on epilepsy research to help prepare them for Congressional meetings.

The 20th anniversary of the passage of the Americans with Disabilities Act is also an appropriate time to honor people and organizations that have championed the rights of people with disabilities. On April 14, the Foundation celebrated its 2010 Distinguished Achievement Awards Gala by honoring CSC, a company dedicated to employing people with disabilities such as epilepsy, as well as House Majority Leader Steny Hoyer and Congressman James Sensenbrenner, crucial and steadfast supporters of the ADA.

Majority Leader Hoyer and Representative Sensenbrenner played crucial roles in the original passage of the ADA in 1990 and in the subsequent fight to restore the basic civil rights intended for people with chronic conditions like epilepsy to be covered by the ADA and protected from discrimination on the basis of their disability. It is thanks to lawmakers like Hoyer and Sensenbrenner, and companies like CSC, that people with epilepsy and other disabilities can now more easily take part in what life has to offer. This is shaping up to be a spring of pride, hope and promise.

## 2010 Annual Meeting Dates

|             |   |
|-------------|---|
| May 4       | Hotel reservations open via the AES Web site  |
| June 15     | Abstract submission site closes at 11:59 p.m. (ET)  |
| June 30     | Annual Meeting Brochure available online<br>Registration opens via the AES Web site<br>Dues for 2010-2011 due; membership year ends |
| October 1   | Group hotel reservations deadline   |
| October 29  | Registration discounts expire   |
| November 9  | Individual hotel reservations deadline  |
| November 18 | Pre-registration deadline   |
| December 3  | Registration opens on-site in San Antonio   |

# Draft Statement on Product Switching

By Michael D. Privitera, M.D.



The American Epilepsy Society (AES) has long been concerned about the potential risk of seizures or adverse effects for some people with epilepsy if there is a product change in their antiepileptic drug (AED). The change could be brand to generic, generic to brand, or most commonly between the generic versions from different manufacturers. Opinions differ on the safety of widespread use of generic AED products. The FDA states

that any approved generic drug is interchangeable with the brand name product without concerns for safety or efficacy or the need for additional laboratory or other testing. The FDA's position is based on rigorous pharmacokinetic testing that generic manufacturers are required to submit to the FDA. Yet, many clinicians and patients believe that generic AEDs do not provide the consistency needed to optimally control seizures and avoid adverse effects in some patients with epilepsy. Questions about AED product inequivalence are largely based on case reports, professional Society position statements, and three large retrospective case-control studies that show an association between switching and higher use of emergent care. (1-3) Critics have also noted that subjects in FDA regulatory studies are not representative of the population of people with epilepsy. Instead, these subjects are healthy volunteers, not receiving concomitant medications and not representing younger or older age groups. The AES believes that equipoise exists between the FDA's position compared to that of clinicians and patients, and adequate research is needed.

The AES created a task force to study the question, and as it became clear that a prospective study was needed, the AES has assisted in the formation of a study group now working with the NIH and FDA on trial planning. The study being proposed will study people with epilepsy using rigorous pharmacokinetic methods in a prospective design. It aims to determine whether the current FDA standards and procedures that define bioequivalence between brand and generic AED products translate to bioequivalence of AED products as utilized in people with epilepsy.

The AES is concerned about healthcare costs. The lack of confidence that clinicians and patients have in generics has led to frequent prescribing of brand AEDs and increased use of laboratory measures of AED levels. It is not known if these practices increase the overall costs (due to increase medication expense) or decrease the cost (due to decreased healthcare utilization) of medical care. Without adequate studies to quantify risk associated with a product switch, a cost benefit analysis will not provide accurate data on which to base therapeutic decisions. This is another reason a prospective trial in people with epilepsy is needed.

Pending prospective data, clinicians may determine that certain patients should maintain continuity of AED products. For patients stable on brand AED, the physician

can indicate "dispense as written"; however, for many patients if brand is not covered or is at the highest insurance co-pay, it may be unaffordable. If a clinician determines that a particular patient needs to stay on brand AED for safety reasons, and the patient's insurance company does not cover or charges a higher co-pay for the brand product, it is possible to notify the company that continuity of product is medically necessary because there is equipoise about the risks and benefits of AED switching, and a product switch may put the patient at unnecessary risk.

Equally important is continuity of AED product for some patients stable on a generic product. A brand to generic switch can be monitored by the physician while generic to generic switches happen routinely at the pharmacy without the knowledge of the clinician or patient. Some pharmacies now recognize the potential problems associated with AED manufacturer switching and have indicated they will make an effort to allow the patient to receive generic product from the same manufacturer provided they have adequate notice prior to refilling the prescription. Some clinicians indicate on prescriptions that a single manufacturer's product should continue to be provided, but it is not clear how effective this practice is.

The AES opposes product substitution of AEDs for the treatment of epilepsy without physician and patient approval. Physicians who treat people with epilepsy are skilled in choosing appropriate AEDs at appropriate dosages to reduce or eliminate seizures and avoid adverse effects. Physicians are trained to do this by using the best available scientific evidence in combination with clinical expertise. The AES opposes all state and federal legislation and formularies that limit the ability of physicians to determine which AED products to prescribe for the treatment of patients with epilepsy.

The American Epilepsy Society strongly supports the development of federal regulations validated for people with epilepsy that ensure that the various formulations of each AED are therapeutically equivalent and can be used interchangeably without concern for safety or efficacy. The AES eagerly awaits results from prospective studies to provide evidence-based guidance on AED product switching to its members.

1. Zachry, Woodie M. III, et al., Case-control analysis of ambulance, emergency room, or inpatient hospital events for epilepsy and antiepileptic drug formulation changes. *Epilepsia*, 50(3); 493-500.
2. Rascati, Karen L., et al., Effects of Antiepileptic Drug Substitutions on Epileptic Events Requiring Acute Care. *Pharmacotherapy*, Volume 29, Number 7 (2009).
3. Hansen, Ryan N., Association between antiepileptic drug switching and epilepsy-related events. *Epilepsy & Behavior*, (2009).

# Update Regarding the Risk of Suicidal Thoughts and Behavior with Antiepileptic Medications

By Anne T. Berg, Ph.D., Dale C. Hesdorffer, Ph.D. and Andres M. Kanner, M.D.

Since the FDA issued an alert on January 31, 2008 to healthcare providers regarding the risk of suicidal thoughts and behavior with antiepileptic drugs (AEDs) four studies have been published which have examined this concern. Taken together, these four reports demonstrate the susceptibility of clinical research studies to biases, especially when based on data not explicitly collected from the outset to address a specific question such as suicidality and AED use. The inconsistencies between and even within these studies highlight the inability of post hoc analysis of secondary data to provide clear, consistent answers and underscore the need to design studies that a priori avoid the biases that may impinge on the specific associations being tested.

Of the four studies, the one recently published in *JAMA* by Patorno et al. (2010) is perhaps the most illuminating and instructive. Key points include:

- The article should be read in its entirety, including the on-line only material to appreciate the full scope of the paper.
- The authors used medical claims data from 297,620 treatment episodes which began when a study subject initiated treatment with an AED.
- Subjects could contribute multiple treatment episodes provided that there was an intervening 6-month gap between use of AEDs.
- A total of 868 suicidal events were reported (attempted or completed suicide and violent death) in the 297,620 treatment episodes.
- Topiramate (TPM) was used as the primary referent drug against which each of the other AEDs was compared.
- Carbamazepine (CBZ) was used as a secondary referent drug.
- Subjects with reported suicide events during the 6-months prior to the onset of the study period were excluded, but the authors did not extend the history back further even though this is the most important predictor of future suicidality.
- Going forward, subjects were censored from contributing further treatment episodes once they had experienced a first suicidal event during the study.

The claims database contained information about a large variety of psychiatric and medical conditions which were used in the adjusted analyses. These data alone demonstrate selectivity in the prescribing of different AEDs, depending on a patient's psychiatric history. For example, of patients receiving TPM, widely regarded as exacerbating mood disorders, only 16.9% had a history of depressive disorders compared to 40.3% for lamotrigine (LTG), an AED which is widely regarded as being beneficial for mood disorders and which has an indication for the treatment of bipolar disorder. For manic depressive disorders, the figures were 4.2% (TPM) and 29.6% (LTG). Consequently, in comparing LTG to TPM, the authors compared a group with high rates of mood disorders (who received LTG) to one with lower rates (who received TPM). In the four analyses presented for LTG versus TPM, the impact of this bias can be appreciated as the unadjusted rate ratio of 3.90 drops to 3.58 after adjustment for sex and age, and then 1.84 after adjustment for all medical history variables, and then further to 1.31 when a direct one to one matching approach is used for the array of potential confounders considered. Relative to CBZ, the ratio for LTG was 0.97. This pattern of shifting answers was seen for all of the drugs.

*These four studies and their highly variable results beg the question, "which analysis does one believe and why?"*

The other studies, all based on post hoc analysis of administrative data not expressly collected for addressing the research questions, reported some positive findings but with no consistency from study to study. For example, Olesen et al. (2010) found an increased risk of completed suicide in a comparison of LTG versus CBZ. Gibbons et al. (2009) found that TPM and CBZ, the referent drugs for the Patorno et al. paper, were associated with an increased risk of suicide attempt in patients with bipolar disorder. VanCott et al. (2010) reported an increased risk for suicidal ideation and behavior associated with valproic acid (VPA) relative to gabapentin (GBP). Olesen et al. (2010) also reported an increased risk for suicide associated with VPA compared to no drug and also to CBZ. By contrast, Patorno found no increased risk for VPA relative to CBZ or TPM, and Gibbons's data suggested VPA was protective.

Repeated verification and replication of any study result, and most especially results from nonrandomized studies, is required before we can seriously consider the results as being potentially real and relevant. These four studies and their highly variable results beg the question, "Which analysis does one believe and why?" None clearly supports the earlier FDA analysis, and they do not clearly support each other.

At this time, the concerns regarding suicidality in epilepsy are very real as there is good evidence from multiple sources demonstrating an increased risk of mood disorders and specifically of suicidality in people with epilepsy. The risks of medication are real as well and include medical and cognitive, as well as psychiatric adverse events. The latter is identified in patients with a past history of psychiatric comorbidities and with a family history of psychiatric disorders. It is, after all, the same neurons whose function drugs alter to control seizures that also control behavior. Whether AEDs specifically increase the risk of suicidal behavior is a question whose answer remains as unclear as it did when the original FDA report was issued two years ago. As such, the recommendations of the American Epilepsy Society for healthcare providers who prescribe AEDs continue to be:

- Balance the potential, but as yet not demonstrated, small increased risk of suicidality with the clinical need for AEDs including all of the educational, employment, and social benefits of seizure control as well as the potential for prevention of accidental death and SUDEP.
- Be aware of the possibility of the emergence or worsening of depression, anxiety, suicidality, or any unusual changes in behavior, particularly in patients with past and/or family psychiatric histories;
- Inform patients, their families, and caregivers of the potential for an increase in the risk of suicidality associated with epilepsy so they are aware and able to notify their healthcare provider of any unusual behavioral changes. Symptoms such as anxiety, agitation, hostility, mania and hypomania may be precursors to emerging suicidality.

The epilepsy community has been increasingly aware that epilepsy is more than seizures and is associated with a variety of other neurological comorbidities. The American Epilepsy Society position is and remains that, in the vast majority of patients with epilepsy, the benefits of treatment outweigh the risks. The recently published research reports do not shed further light on the association and do not alter the AES position. The reports do, however, serve to

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[www.AESNET.org](http://www.AESNET.org)

**New Initiatives for AES**

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action is to revitalize the Guidelines Task Force to enable AES to be more proactive in developing standards and parameters in partnership with the AAN. The Practice Committee has already been working on some position statements for our Web site that will help meet this outcome.

The second outcome under this initiative is to influence the utilization of standards of care. Some possible actions include analyzing Health Care Reform and its impact on treatment gap and access to care, increasing the visibility of epilepsy and the TeleMedicine program being developed by the International Relations Committee.

One very exciting activity that is currently being developed by the Vision 2020 Committee is the opportunity to have an Institute of Medicine Report done on epilepsy. The Committee is working closely with the Health and Human Services office to take full advantage of this opportunity and the Board has committed financial support. Watch for more on this project in the next newsletter.

**Forging external relationships**

Only one outcome has been identified for this broad initiative: to generate and disseminate widely endorsed information in collaboration with key organizations. Actions already being developed to meet this objective over the next two years include developing a closer relationship with the AAN, cultivate the new relationship with the Institute of Medicine, and engage with partners to raise global awareness. Ongoing projects include: creating the joint AES/EF/AAN Susan Spencer Clinical Research Training Fellowship, developing a common message with other patient advocacy and epilepsy funding organizations through the Vision 2020 Committee and drafting the initial request for the Institute of Medicine report.

**Building financial resources to achieve sustained growth and longevity**

With continuing changes in commercial support and scrutiny by government, not to mention CME rules, we need to focus on finding new ways to build financial resources. One outcome will be to ensure that revenue from industry support will not be greater than 25% of the total AES revenue budget. The percentage is what is currently considered acceptable for medical societies. As industry support is defined, it does not include exhibit hall or advertising, so we are hoping to grow those areas. Our percentage for 2009 was actually 16.4%, which means we actually have capacity for more industry support. Actions to meet this objective include creating a Development Committee and a Development Campaign to grow our endowment funds.

The second objective is to diversify sources of income relying less on the operating budget to fund research. Possible actions to achieve this objective include identifying new or existing programs that could generate revenue such as online CME programs. The Development Campaign relates to this objective as well, since the endowment funds will provide money for research.

As you can see, several projects are already in progress and new projects will be developed by committees during the year. New Task Forces and work groups are being formed to address some of these proposed actions. If you are interested in being involved, be sure to complete the Volunteer Sign Up form (<http://www.aesnet.org/go/about-aes/committees/committee-signup/take-an-active-role-in-aes>). Several Task Forces have already been populated with people who had not yet been chosen for committees.

Committees were asked to determine what resources are needed and what the impact on the budget might be for their identified actions. Milestones and action agents will need to be identified and a Board representative will be assigned to provide a reporting and trouble-shooting conduit. Committee Chairs are expected to report back so any new activities can be built into the new fiscal year's budget.

**Come to Texas for the 64th Annual Meeting**

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Poster author present times will be on Saturday, Sunday and Monday during a two-hour lunch break. No programs or meetings will be allowed during this time and lunch will be available in the Exhibit Hall. This change was implemented in response to your feedback to allow attendees adequate time to view the posters as well as to provide time to have lunch.

The Education Council and Annual Meeting Committee have developed an exciting program of symposia and lectures. Symposia topics include:

- Annual Fundamentals Symposium: Psychogenic Nonepileptic Seizures
- Spanish Symposium: Status Epilepticus: Novel Concepts in Pathophysiology and Treatment Strategies
- Hot Topics Symposium: Head Trauma and Healthcare Reform
- Presidential Symposium: GABAergic Transmission in Epilepsy
- AET Symposium: Channel Surfing: Impact on Treatment Strategies
- Annual Course: Inflammatory and Infectious Causes of Epilepsy
- PEC Symposium: Making a Difference with Neuropsychological Testing: How Practitioners Can Use Results to Improve Patient Care and Outcomes
- Merritt-Putnam Symposium: Consequences of Epilepsy through the Ages: When Is the Die Cast?
- Pediatric State of the Art Symposium: Identifying and Managing the Comorbidities of Pediatric Epilepsy
- Plenary II: Neurostimulation in the Treatment of Epilepsy: Where Are We Now?
- ILAE Symposium: Epilepsy Treatment in North America and Around the World: Can We Learn From Each Other?

In addition there is the annual Hoyer and Lennox & Lombroso Lectures and the traditional Keynote Lecture for the Research Recognition Awardees.

There will be 38 Special Interest Groups this year; four Clinical Investigators' Workshops; ten Investigators' Workshops; one Translational Investigators' Workshop; three days of Poster Sessions with approximately 1,000 posters; three Platform Sessions; three days of Exhibit Hall; Scientific Exhibits; a Mentoring Session; and various networking receptions.

**Update Regarding the Risk of Suicidal Thoughts and Behavior with Antiepileptic Medications**

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emphasize the need for awareness among providers of the psychiatric comorbidities in our patients, increase communication about emotional well-being between patients, their families, and their providers, and ultimately lead to future studies to better identify and effectively treat psychiatric comorbidities in our patients.

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# SIGnals

**SIGnals** provides ongoing information on the activities of AES Special Interest Groups (SIGs). For more information on current SIGs or guidelines for creating a SIG, visit the AES Web site at [www.AESNET.org](http://www.AESNET.org).

## Neuropsychology

*Marla Hamberger, Ph.D.*

This year's topic is "The changing role of neuropsychology in epilepsy: Future directions." With decades of research behind us and advances in neuroimaging, the role of neuropsychology in epilepsy is changing. The nature of these changes and their implications for both clinical practice and future research will be discussed from adult and pediatric perspectives. Scheduled speakers include: Bruce Hermann, Ph.D.: "Change: Who Wants It, Why, and Associated Risks and Benefits;" David Loring, Ph.D.: "Evidence-Based Practice and Collaborative Efforts;" and Mary Lou Smith, Ph.D.: "Pediatric Perspective."

## EEG

*Jean Gotman, M.D.*

This year we will discuss what a seizure is. What are clinical seizures, electrographic seizures (is there such a thing?), the minimum duration of a seizure? What is a seizure in an experimental animal, when does a seizure become an interictal discharge and an interictal discharge have clinical accompaniment and become a seizure? Should we try to define seizures, are there different definitions for different purposes? What should an automatic seizure detection system detect?

## Botanicals and Alternative Therapies for Epilepsy

*Steven C. Schachter, M.D.*

Are you working with botanicals or natural products? Do you want to share your findings with the epilepsy botanical community and meet potential collaborators? Then come join us for an "open microphone" at this year's Botanical SIG for five-minute presentations followed by five-minute discussions. Space is limited, so presenters will be scheduled on a first come, first served basis. To reserve your place on the program, contact Steve Schachter at [sschacht@bidmc.harvard.edu](mailto:sschacht@bidmc.harvard.edu) as soon as possible.

## Ketogenic Diet

*Jong M. Rho, M.D. and Beth Zupec-Kania, RD, CD*

This year's SIG will revisit the topic of reduced glucose as an interventional strategy and potential mechanistic underpinning of ketogenic diet (KD) action. There are emerging data indicating that reduced glucose may have profound effects on neuronal excitability through novel mechanisms, including purinergic modulation. Additionally, low serum glucose levels are not always seen in patients successfully treated with the KD, suggesting more complex metabolic interactions. Elizabeth Thiele (Massachusetts General Hospital, Boston, MA) will begin with a critical discussion of the clinical evidence for and against reduced glucose as a marker/mediator of anticonvulsant effects of the KD. Next, Susan Masino (Trinity College, Hartford, CT) will present experimental data and a conceptual model to explain the effects of reduced glucose on neuronal membrane excitability. Finally, Beth Zupec-Kania (Children's Hospital of Wisconsin, Madison, WI) will review practical approaches for achieving and sustaining low glucose levels in patients on the KD and its variants.

## Patient Reported Outcomes

*Rosemari Kobau, M.P.H. and Erik St. Louis, M.D.*

This year's program will focus on Improving Mental Health Outcomes in People with Epilepsy through the CDC

## Managing Epilepsy Well Network: PEARLS and UPLIFT.

PEARLS (Program to Encourage Active, Rewarding Lives) is a community-based depression treatment program shown to be effective in improving health outcomes (Ciechanowski, et al., 2004). Adults with epilepsy and depression receiving PEARLS were more likely to have reductions in depression and improvements in quality of life, relative to usual care. UPLIFT (Using Practice and Learning to Increase Favorable Thoughts), provides group delivery of depression treatment by telephone or Web. Following pilot results, UPLIFT's scope has been expanded to include prevention of depression in people with epilepsy. PEARLS and UPLIFT PIs will present an overview of each study, and will discuss training and implementation opportunities. MEW Network members work together to promote epilepsy self-management research and improve the quality of life for people with epilepsy (<http://www.sph.emory.edu/ManagingEpilepsyWell/index.php>). The following are scheduled to speak:

Nancy J. Thompson, Ph.D., M.P.H., Associate Professor in Behavioral Sciences, Emory University, Rollins School of Public Health, Dept. of Behavioral Sciences and Health Education and Paul Ciechanowski, M.D., M.P.H., Associate Professor, Department of Psychiatry and Behavioral Sciences, University of Washington, Program Director, Psychosomatic Medicine Fellowship Program, University of Washington.

## Quality and Value Indicators in the Care of Patients with Epilepsy

*Joseph I. Sirven, M.D.*

Eight Epilepsy Quality metrics have been approved which will need to be addressed in each and every visit with patients with epilepsy in order to assure quality care. The 2010 SIG will unveil the first AAN Performance in Practice (PIP) based on these metrics. PIPs are now a requirement for maintenance of Neurology board certification. Other topics to be covered include the role of the new U.S. Healthcare Law in Epilepsy Quality Measurements and ongoing epilepsy projects involving quality metrics will be reviewed. Speakers will include Nathan Fountain, M.D., Richard Zimmerman, M.D. and Sandra Helmers, M.D.

## Women with Epilepsy

*Lisa Bateman, M.D. and Mary L. Zupanc, M.D.*

Women with Epilepsy and Special Disabilities. This group of women poses special challenges to the adult/pediatric epileptologist. The issues include contraception and pregnancy-related issues, guardianship, transition to appropriate adult healthcare, and transition from school to adult work/sheltered workshops. There are many other issues as well, similar to all adolescent/adult women with epilepsy, such as bone mineral health, folate supplementation, catamenial epilepsy, etc.

## Clinical Nursing

*Madona Plueger, M.S.N., RN, CNRN*

AES is a professional organization for registered nurses to enhance their knowledge and education in the field of epilepsy. This is an environment in which nurses and physicians can network with other healthcare professionals across the country who share common interests. Core competencies for nurses who specialize in caring for people with epilepsy and need a specific body of knowledge regarding the roles and responsibilities, functions, and skills have yet to be defined. The 2010 Clinical Nursing SIG will focus on the characteristics and profile of the epilepsy-specialty nurse. Advance practice nurses who care for adult and pediatric epilepsy patients will discuss the elements that comprise the epilepsy-specialty nurse. A panel discussion will address methods to demonstrate how

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**Signals**

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specialty competencies could ultimately improve patient outcomes in the outpatient and inpatient environment. The collective focus of the SIG will be to highlight the necessary requirements for future application to the American Board of Nursing Specialties for an Epilepsy Nurse Certification.

**Basic Neuroscience***Michael Wong, M.D. and Céline M. Dubé, M.D.*

The SIG will discuss the contribution of the depolarizing action of GABA to increased susceptibility to seizures in neonates and to epileptogenesis in adults. Dr. Kevin Staley will discuss the role of the bumetanide-sensitive Na-K-2Cl cotransporter NKCC1 in depolarizing GABA actions and its potential therapeutic anticonvulsant effects in neonates. Dr. Aristeia Galanopoulou will talk about the importance of GABAA-receptor signaling for age- and sex-specific effects of seizures. Dr. John F. Kerrigan will discuss the depolarizing GABAergic response in human hypothalamic hamartomas.

**Sleep and Epilepsy***Carl Bazil, M.D., Ph.D. and Mark Quigg, M.D.*

The Sleep SIG will feature two speakers on the relationship between sleep, cognition, and the cognitive sequelae of its disruption by seizures or other paroxysmal phenomena. The main speaker, Dr. Carlo Tassinari, will discuss the relationships between cognition and nocturnal epileptiform activity or electrical status epilepticus of sleep. Dr. Mark Quigg will present data on EEG changes arising from obstructive apneas in children and associated cognitive impairments.

**Clinical Roundtable***Kevin Chapman, M.D.*

Neonatal seizures are a common and ominous sign of neurologic injury that can arise from a variety of etiologies. The immature brain presents particular challenges regarding semiology and response to treatment compared to adults. This discussion will bring together experts in the field of neonatal seizures to discuss their approach to patients in terms of practical issues and future directions. Audience participation is encouraged.

**Neurostimulation***James Wheless, M.D. and Christopher DeGiorgio, M.D.*

This year's program will focus on breaking news in neurostimulation for epilepsy. We will cover three topics. First Dr. Douglas Labar will present an update on safety and efficacy from the pivotal SANTE trial. Next, Dr. Martha Morrell will discuss responsive stimulation for the treatment of medically intractable partial epilepsy using the results of the RNS(r) System trial. Lastly, Drs. Erika Fanselow and Christopher DeGiorgio will discuss trigeminal nerve stimulation, an emerging therapy.

**Frontal Lobe***Matthias Koepp, M.D., Ph.D.*

After exploring frontal lobe functions in IGE and TLE in the previous two years, the Frontal Lobe SIG will go back to its "roots" this year, and address the added yield of new neurophysiological (ESI, MEG/MSI) and imaging (fMRI/DTI, PET/SPECT) techniques in the assessment and evaluation of patients with frontal lobe epilepsy. Speakers will present the methodological advances and limitations, challenges and opportunities for each of these techniques, and then discuss illustrative cases, which will include head to head comparisons, illustrating which patients stand to benefit the most from which technique. The purpose of this SIG is to clarify the relative contribution of each neurophysiological and imaging modality, to summarize the typical findings in frontal lobe epilepsy, including

developmental methods, and to make recommendations on methodological details of these procedures and on a ranked sequence of several examinations. The outcome of this SIG will be an algorithm for advanced neurophysiological and neuroimaging in the presurgical evaluation of patients with frontal lobe epilepsy.

**SUDEP: Mechanisms and Models***George Richerson, M.D., Ph.D. and Lawrence Hirsch, M.D.*

Recent years have seen a flurry of data from monitored patients and from new animal models that point to potential mechanisms of death in SUDEP. These data confirm that both respiratory and cardiac causes may be involved, and point to complex interactions between the two. Data also reveal some surprising new twists including a possible role of serotonin. This SIG will bring together experts in the field who will discuss the validity of some of the new animal models, as well as a discussion of current thinking about the mechanisms responsible for human SUDEP.

**MEG***Jerry J. Shih, M.D.*

The theme of the 2009 MEG SIG was to review the "best of field" studies in adult epilepsy, pediatric epilepsy, and cognitive neurosciences over the past five years. Dr. William Sutherling presented two randomized controlled studies demonstrating the added value of MEG to the presurgical evaluation of select adult patients with medically refractory epilepsy. Dr. Hiroshi Otsubo presented the Toronto experience with using SAMg2 and kurtosis in pediatric MEG studies. Dr. Eduardo Castillo comprehensively reviewed the seminal MEG studies involving cognitive neurosciences, noting slow but steady progress in establishing MEG's ability to reliably lateralize language function. Over 200 members attended the 2009 SIG. The theme of the 2010 SIG is to explore the regional differences in scope and focus of MEG research around the globe. Investigators from major research centers from Asia, Europe, and North America will present their current research. We will conclude with a presentation on reimbursement for clinical MEG studies. As usual, a lively Q/A discussion is encouraged and expected.

**Neuropharmacology***Gail Anderson, Ph.D., Eugene Ramsay, M.D. and Jacqui Bainbridge, Pharm.D.*

This SIG will present "Experimental Methods to Guide the use of Combination Antiepileptic Drug Therapy." This session will discuss the rationale and controversies of using preclinical and clinical data to guide practitioners in the use of combination antiepileptic drug therapy. Dr. Rho will discuss antiepileptic drug Polypharmacy, the rationale, definitions and controversies. Dr. Rogawski will review experimental studies of AED combinations and whether they provide useful guidance for the clinician. Lastly, Dr. Poolos will discuss the comparative efficacy of combination AED therapy in refractory epilepsy.

**Neuropathology of Epilepsy***Harvey B. Sarnat, M.S., M.D., FRCPC, Director*

The 2010 SIG will include three didactic themes, each with new advances in the neuropathology of surgical resections and autopsy brain tissue in epilepsy:

- 1) Columnar cortical architecture as a developmental delay or arrest and also as a newly recognized form of focal cortical dysgenesis that may be epileptogenic. Radial columnar architecture precedes laminar architecture in the human fetus in the first half of gestation and may persist in acquired lesions of the fetal brain (e.g. infarcts), in some genetically-programmed malformations and also in some focal cortical dysplasias resected for epilepsy. The ontogenesis and synaptic

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## CALENDAR OF EVENTS

### June 27-July 1, 2010

9th European Congress on Epileptology  
Rhodes, Greece  
[www.epilepsyrhodes2010.org](http://www.epilepsyrhodes2010.org)

### July 3-7, 2010

7th Forum of European Neuroscience  
Amsterdam, The Netherlands  
<http://forum.fens.org/2010>

### August 1-4, 2010

6th Latin American Congress on Epilepsy  
Cartagena, Columbia  
[www.epilepsiacartagena2010.org/](http://www.epilepsiacartagena2010.org/)

### August 13-14, 2010

Cleveland Clinic's Third Biennial Epilepsy Surgery Family Reunion  
Embassy Suites Cleveland-Rockside, Independence, OH  
[www.clevelandclinic.org](http://www.clevelandclinic.org)

### August 15-22, 2010

4th Migrating Course on Epilepsy  
Serock, Poland  
[www.epilepsy-academy.org](http://www.epilepsy-academy.org)

### August 25-27, 2010

12th European Conference on Epilepsy and Society  
Porto, Portugal  
[www.epilepsyandsociety.org/](http://www.epilepsyandsociety.org/)

### September 3-5, 2010

4th Asian Epilepsy Surgery Congress  
Taipei, Taiwan  
[www.aesctaipei.org.tw/](http://www.aesctaipei.org.tw/)

### September 12-13, 2010

Epilepsy and Depressive Disorders  
Chicago, IL  
[www.epilepsyanddepressivedisorders.com](http://www.epilepsyanddepressivedisorders.com)

### September 30-October 1, 2010

First Halifax International Epilepsy Congress  
Halifax, Nova Scotia, Canada  
[janet.quenneville@nrc.gc.ca](mailto:janet.quenneville@nrc.gc.ca)

### October 21-24, 2010

8th Asian and Oceanian Epilepsy Congress  
Melbourne, Australia  
[www.epilepsymelbourne2010.org](http://www.epilepsymelbourne2010.org)

### November 13-17, 2010

Neuroscience 2010  
San Diego, CA  
[www.sfn.org/am2010](http://www.sfn.org/am2010)

### December 3-7, 2010

AES 64th Annual Meeting  
San Antonio, TX  
[www.aesnet.org](http://www.aesnet.org)

### Signals

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organization of such architecture will be reviewed and compared with other forms of cortical dysplasia.

- 2) Maturation of the cortical tuber will be traced from fetuses with tuberous sclerosis to infants and children with surgical resection of highly epileptogenic tubers. The histopathology, including immunocytochemical markers for neuronal and glial cellular lineages, will be shown at various ages to demonstrate the evolution of the tuber over time.
- 3) Satellitosis as a phenomenon of glial cell adhesion to the neuronal soma, almost universal in chronically epileptogenic cortex and Ammon's horn of the hippocampus, will be

examined in the context of two opposing theories: neuroprotection and contributing to epileptogenic neurons and later to neuronal death. Evidence will be presented mainly from ultrastructural (EM) studies of surgically resected epileptic foci.

Finally, time will be provided for participants in the course to bring brief cases of unusual or problematic neuropathological findings in the resected tissue for open discussion.

**For more 2010 SIG summaries, more detailed information and to discuss these topics, go to the Message Board on [www.aesnet.org](http://www.aesnet.org), available under the Members Only section.**