

AES recap article

The 67th American Epilepsy Society (AES) Meeting was held at the Walter E Washington Convention Center from December 6-10 2013, and was well-attended by staff and physicians of the NYU Comprehensive Epilepsy Clinic including Dr. Devinsky, Dr. Friedman, Dr. Scharfman and Dr. French.

The AES meeting is held every year, and is the largest epilepsy conference in the US. The 2013 meeting was attended by over 5000 people, and provided a platform for epileptologists, neurosurgeons, basic epilepsy researchers, nurse practitioners, and social workers to share cutting-edge information acquired in their respective subfields. AES is unique in its format, and attendees can choose between symposia and lectures with an audience in the thousands; or posters and workshops where the crowd is more intimate and conducive to discussion. In addition, there are networking and mentoring sessions for junior investigators as well. **One of the main purposes of AES meetings is to bridge the gap between basic and clinical epilepsy research.**

Below are some **highlights** of the 2013 meeting:

- **Neurocircuitry of Lennox-Gastaut syndrome (LGS)** – Lennox-Gestaut syndrome is a type of catastrophic epilepsy that manifests in children less than 4 years of age. There is no cure for it, and complete recovery is very unusual. Children with this can also exhibit intellectual disability and developmental delay. At the AES meeting, researchers discussed the neurocircuitry involved in LGS, along with new advances in neuroimaging to localize the parts of the brain involved in seizure generation.
- **Catamenial epilepsy** (seizure exacerbation in women with epilepsy that aligns with their menstrual cycle) is a well recognized phenomenon in the clinic. Recent knowledge about how the brain changes during the menstrual cycle, and the possible reasons why there is a reduced seizure threshold on certain days of the cycle were discussed.
- **Limitations to access to appropriate care** – epilepsy professionals talked about barriers to care for people with epilepsy. Factors such as shortage of professionals skilled in epilepsy, proper identification of comorbidities and cultural barriers, and the ways to overcome these barriers were discussed.
- **Tumors in people with epilepsy** – astrocytic tumors like Glioblastoma multiforme (GBM) are routinely associated with seizures. At the meeting, evaluation and follow-up for such seizures, prognosis and the cognitive impact of tumor-associated seizures were discussed.
- **Posttraumatic epilepsy** – Penetrating head injuries can lead to posttraumatic epilepsy and subjects can develop epilepsy months or years after the initial injury. At a special

interest group at the AES meeting, the role of antiseizure drugs as prophylactics, the value of EEG to recognize people who have a higher likelihood of developing epilepsy, and the process of epileptogenesis in people who have undergone posttraumatic injury were discussed.

- **Future therapies for epilepsy** – researchers talked about anti-inflammatory therapy, focal cooling, optogenetics and devices for seizure prediction and control.

Dr. French of NYU who was the President of the AES for 2013 talked about the **changing landscape of epilepsy surgery**. She talked about Q-PULSE (Quantitative Practical Use Driven Learning Survey in Epilepsy) – a questionnaire that was given to more than 200 epileptologists, to take the ‘pulse’ of the epilepsy community. Using the Q-PULSE system, it was observed that the rate of rate of temporal lobectomy (a surgical procedure for intractable epilepsies) had decreased over the decades. Possible ways to improve the situation and provide better care to people with intractable epilepsy are better patient education and outreach to poorer communities, educating neurologists about epilepsy surgery and facilitating better communication between epilepsy centers.

Dr. Scharfman who has an appointment at the NYU Langone Medical Center and the Nathan Kline Institute serves on the board of the AES. At the meeting, she moderated a session where epilepsy researchers talked about their involvement with clinical drug discovery. Scientists talked about the process as being long and arduous but ultimately fulfilling. Dr. Scharfman also talked about research in her lab on the role of postnatal neurogenesis (birth of new neurons in adulthood), and how aberrant postnatal neurogenesis can underlie cognitive and behavioral deficiencies in people with epilepsy.