Epilepsy and Human Brain Mapping Program

Albany Medical Center

A Regional Leader in Managing Epilepsy

For over 20 years, Albany Medical Center's comprehensive Epilepsy Program has been a leader in the medical and surgical treatment of adult and pediatric seizure disorders. Adult patients are evaluated and managed by the Center's Adult Epilepsy Program, and children by the Pediatric Epilepsy Program.

The success of epilepsy treatment depends on a detailed and accurate evaluation prior to therapy -- an evaluation that is best carried out at an established epilepsy center of excellence like Albany Med. It is the only center in northeastern New York to offer expert and global management of this complex brain illness, and one of a few centers in New York to offer an incomparable degree of clinical competency. Albany Med is also the only "Level 4" epilepsy center in the region, as determined by the National Association of Epilepsy Centers.

A Comprehensive Program

CLINICAL STRENGTHS:

- Diagnostic and prognostic evaluations of new onset seizure disorders
- Catastrophic epilepsy in infants and small children
- Medical treatment of drug resistant epilepsies
- Experimental anti-convulsant drug trials
- Vagus nerve stimulator implantation and programming
- Non-invasive and invasive surgical assessments for epilepsy surgery candidacy

INNOVATIVE THERAPIES:

- Expert manipulation of established FDA-approved anticonvulsants
- Enrollment in novel experimental anticonvulsant drug trials
- Advanced imaging and presurgical assessments for possible curative surgeries
- Implantation of electrical stimulation devices for seizure control

DIAGNOSTIC SERVICES:

- Routine scalp EEG
- Outpatient multiple-day ambulatory EEG
- Inpatient video EEG evaluation for seizure characterization and localization
- Advanced neuropsychological/psychometric assessments
- Anatomic and functional imaging including MRI, SPECT, MRSPECT, PET
- Intracarotid amytal assessments of language and memory function
- Implantation of subdural grid and strip electrode arrays for invasive recording and mapping
- State-of-the-art functional brain mapping techniques including standard electrical interference mapping as well as ECoG mapping.

SURGICAL PROCEDURES:

- Standard temporal lobe resections
- Selective amygdalohippocampectomy
- Temporal and extra-temporal neocortical resections
- Lesionectomy of tumor or other malformation
- Corpus callosotomy
- Vagus nerve stimulator implantation
- Brain mapping and corticography of eloquent cortex to spare function

Albany Med's success rate for temporal lobe surgery is more than 70 percent seizure-free. For those with tumors or other lesions the success rate is 80 percent, comparable to the highest cure rates in the nation.

CLINICAL DRUG TRIALS AND GROUND-BREAKING RESEARCH:

Anticonvulsant Trials:

- Ongoing Phase II and III studies of new medications

Basic Science:

- $3 million dollar research grant by Department of Defense for brain-computer interface research

Advanced Inpatient Epilepsy Monitoring Unit

Each year Albany Med performs over 2000 electroencephalograms and evaluates over 300 patients in its inpatient epilepsy monitoring unit for improved medical care or surgical cure.

The epicenter of Albany Med's program is the inpatient epilepsy monitoring unit (EMU). The EMU provides six fixed beds and one portable unit for continuous digital video and EEG monitoring to record, characterize and map patients' seizures. A recent renovation has ensured the most advanced monitoring experience available today, including wireless brainwave recording. The EMU operates 24 hours a day and is staffed by dedicated epilepsy nurses and technologists.

A Team Approach to Care

Albany Med's multidisciplinary team includes nationally-recognized adult and pediatric epilepsy subspecialists; epilepsy neurosurgeons; neurophysiology fellows; neuropsychologists; neuroradiologists; specialized epilepsy nurses and nurse practitioner; registered electroencephalographic technologists; and internationally recognized research faculty. The team focuses on evaluating and treating people with seizures using the most modern techniques available. Each patient undergoes a multi-step diagnostic regimen designed to determine the location of the seizure focus and the most beneficial treatment plan.

ANTHONY RITACCIO, MD

Dr. Ritaccio, Professor of Neurology and Neurosurgery, is the Director of the Epilepsy and Human Brain Mapping Program, Director of the Clinical Neurophysiology Laboratory and the J. Spencer Standish Chair in Neuroscience. He received his MD degree from Albany Medical College and completed his neurology residency training at the same institution. He completed a fellowship in Epilepsy and Neurophysiology at the University of Pittsburgh Epilepsy Center. He is Board Certified by the American Board of Psychiatry & Neurology.

MICHAEL GRUENTHAL, MD, PHD

Dr. Gruenthal is Professor and Chairman of the Department of Neurology. He received his MD degree from the University of North Carolina and his PhD from Washington University in St. Louis followed by a Postdoctoral Fellowship in Epilepsy Research at Duke University. He completed his neurology residency and fellowship training at the University of Louisville, where he was Chairman of the Department of Neurology before coming to Albany. He is Board Certified by the American Board of Psychiatry & Neurology.

TIMOTHY LYNCH, MD

Dr. Lynch is an Assistant Professor of Neurology. He received his MD degree from Brown University School of Medicine and completed his neurology residency training from the Washington University Medical School in St. Louis. Subsequently, he completed fellowships in Epilepsy and EMG/nerve conduction at the same institution. He is Board Certified in Neurology and Clinical Neurophysiology by the American Board of Psychiatry and Neurology. He is also boarded by the American Board of Electrodiagnostic Medicine in EMG/NCS and the American Board of Clinical Neurophysiology in Epilepsy Monitoring.

JOSEPH EMRICH, MD

Dr. Emrich is Associate Professor of Neurosurgery. He received his MD degree from McGill University. He completed his neurosurgical training from the Montreal Neurological Institute and a subsequent fellowship in Neuro-oncology at the same institution. He is Board Certified by the American Board of Neurological Surgery.

PAUL SPURGAS, MD

Dr. Spurgas is an Associate Professor of Neurosurgery. He received his MD degree from Temple University Medical School. He completed his neurosurgical training at Albany Medical Center. He is Board Certified by the American Board of Neurological Surgery.

VINCENT GIBBONS, MD

Dr. Gibbons is an Associate Professor of Neurology and Pediatrics and the Division Director of Child Neurology. He received his MD degree from Georgetown University School of Medicine and completed his neurology residency training at Children's Hospital Nation Medical Center in Washington, D.C.. He completed a fellowship in Pediatric Neurology at the George Washington University Medical Center and a fellowship in Epilepsy and Neurophysiology at the Children's Hospital in Boston. He is Board Certified by the American Board of Pediatrics, the American Board of Psychiatry and Neurology and the American Board of Qualification in Electroencephalography.

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