

UPSTATE

MEDICAL UNIVERSITY

SYRACUSE, NEW YORK

INSIDE

July 2011

New: Pediatric Epilepsy Surgery *Page A2*

Lily's Story *Page A5*

New Chairs at Upstate *Page A6*

Knowing changes everything.™

EPILEPSY TREATMENT OPTIONS NOW INCLUDE SURGERY


Children with epilepsy are typically treated with anti-seizure medication, but medicines aren't adequate for almost half of patients. In some of those children with intractable epilepsy, treatment may include surgery.

The pediatric epilepsy team at Upstate Golisano Children's Hospital now offers epilepsy surgery to children as young as a few weeks old, with a success rate of up to an 85 percent for curing the seizures and improving the patient's quality of life.

Potentially Cures Seizures

Surgery is considered "with the aim to offer the patient the best chance to become seizure-free or to diminish the amount or intensity of seizures," says Zulma Tovar-Spinoza MD, director of pediatric neurosurgery and surgical director of the pediatric epilepsy program at Upstate. Epileptologist Yaman Eksioglu MD, a pediatric neurologist specializing in epilepsy, is the program's clinical director.

The team's first surgical case



Yaman Eksioglu MD, a pediatric neurologist specializing in epilepsy, is clinical director of Upstate's new pediatric epilepsy program



Zulma Tovar-Spinoza MD,
director of pediatric
neurosurgery and surgical
director of the pediatric
epilepsy program at
Upstate

WHO THIS HELPS

Some children with seizures may be candidates for surgery, depending on what is causing their seizures and from where they originate. Between 25 and 40 percent of children with seizure disorders have what is known as focal epilepsy. Of those, 5 to 10 percent may be candidates for surgery. This may include children with brain tumors, cerebral palsy, head injury or various forms of epilepsy.



performed at Upstate was a success at the end of April. Each doctor came to Upstate with previous experience in this technique, intending to make it available to children throughout Central New York. Dr. Tovar-Spinoza came from the Hospital for Sick Children in Toronto, and Dr. Eksioglu came from Children's Hospital in Boston.

Requires Extensive Pre-testing

Prior to surgery, potential patients are evaluated through a series of tests, including electroencephalograms to show the electrical activity in the brain and various magnetic resonance imaging scans that show detailed pictures of the brain and metabolic changes taking place in the active parts of the brain. Additional functional imaging helps to localize the areas with important cortical functions. In addition, positron emission tomography (PET) provides three-dimensional cross sectional images, while single photon emission computer tomography (SPECT) reveals the more active and less active areas of the brain.

Continued on page A4

Epilepsy Treatment, continued from page A3

“With these puzzle pieces of information, you evaluate if you can perform a safe and successful surgery,” Dr. Tovar-Spinoza says.

Targets Focal Lesions

Between 60 and 75 percent of pediatric patients do not have a focal lesion, a spot from where

the seizures originate. They are more complex patients, and most of them are not candidates for surgery.

Among patients in whom doctors can pinpoint the seizure origins, 5 to 10 percent may be eligible for surgery, Dr. Eksioglu says.

He says the seizures are only one concern, representing the tip of the iceberg. “The abnormal electrical activity starts in the brain, and it affects many functions that the brain governs. Learning, memory, personal social interactions, and other neurocognitive functions may be affected.”

Removes Brain Tissue

The surgeries begin with surgeons removing part of the skull so that several dozen to a few hundred electrodes can be placed on the surface of the brain. Without hair, skin and bones to interfere, the electrodes can transmit precise information about the brain’s electrical pathways. Some patients also undergo motor and sensory mapping at this time, to help doctors determine which geographic areas of the brain are responsible for which actions.

Surgeons close the craniotomy and monitor the patient in the hospital for up to 10 days, waiting for seizure activity that will reveal a focal lesion and pathways.

In the second surgery, doctors remove the electrodes and then resect the brain tissue containing the focal lesion. How much tissue is



Upstate neurosurgery residents Juneyoung Yi MD and Mohamed Abdulhamid MD and medical student Nicole Toscano check on Lily during hospital rounds.

removed varies among patients, but Dr. Tovar-Spinoza says it is important to capture all of the affected tissue, whether it is a few centimeters or half of the brain. “The first time that you do this, this is the patient’s best shot,” she says.

Can Alter a Child’s Life

The surgery includes the risk of infection, stroke and bleeding in the brain. “Kids actually tolerate this procedure better than adults,” Dr. Tovar-Spinoza explains. “Their brains are still developing and can compensate for the loss of brain tissue, rerouting essential functions from one area of the brain to another. Even if half of the brain is removed in a young child, the other half typically will take over the duties of the missing hemisphere.”

That is why it is important to operate as soon as possible in a child’s life, to help prevent developmental delays and cognitive losses. “What we want is our patients to learn,” Dr. Tovar-Spinoza says. “The brain should be busy in the pediatric years on learning, not on having seizures.” ■



Lily's STORY

Lily Craparo of Endicott was Upstate's first pediatric epilepsy surgery case. Her mother, Michele Craparo, describes her as a "perfectly healthy" 2 1/2-year-old before the life-threatening seizures that began March 12. Her parents found her that morning, with no telling how long she had been quietly seizing.

The hospital in Binghamton transferred the toddler to Upstate University Hospital in Syracuse, where doctors quickly diagnosed cortical dysplasia, a malformation of the cortex in the brain. Lily could not walk and was paralyzed on her left side.

When various medications failed to quell the seizures, Drs. Zulma Tovar-Spinoza and Yaman Eksioglu spoke to the Craparos about surgery. The idea of brain surgery was a lot to absorb, and the series of tests moved quickly, but looking back, the parents are grateful for

the doctors' thoroughness. They were impressed that the goal was not only to control the seizures but to preserve Lily's quality of life and developmental abilities. "We were pushed so many times to go to a bigger hospital," says Michele Craparo. "But after working with Dr. Eksioglu, I knew we were in the right place."


Lily's first operation revealed a benign tumor called meningioangiomas, which was causing the dysplasia. During the period between surgeries when she was monitored in the hospital, Lily had seizures that were not evident from outward physical signs. Only the electrodes on her brain picked up and recorded the activity, which allowed doctors to recognize that electrical activity was bombarding the cortex, preventing her use of her arm. They mapped out a strategy for the second operation.

Michele Craparo says the doctors practically skipped into the waiting room to report how well the surgery went. "She actually did recover some functions immediately after surgery, which is amazing," Dr. Tovar-Spinoza recalls.

Lily's mother says that her daughter lifted her previously paralyzed arm, and "the next thing she did was yell at the recovery room nurse about taking off her diaper." Lily was back to herself.

"She woke up feisty," says her father, "and that's how she has been."

Charles Craparo says he is grateful that Lily's ordeal is coming to a close. She will be on anti-seizure medicine for at least the short term, "but long term, she should be able to live a normal, healthy, productive life." ■



Lily Craparo of Endicott was Upstate's first pediatric epilepsy surgery case.

NEW CHAIRS APPOINTED



Lawrence Chin MD



Gennedy Bratslavsky MD



Robert Silverman MD

Lawrence Chin MD: Department of Neurosurgery

Lawrence Chin MD has been appointed professor and chair of the Department of Neurosurgery at Upstate Medical University. Steven Scheinman MD, senior vice president and dean of Upstate's College of Medicine, announced the appointment. Dr. Chin succeeds David Carter MD, who serves as interim department chair.

"Dr. Chin's clinical and research accomplishments reflect his expertise in surgery for brain tumors, aneurysms and vascular malformations, and in stereotactic radiosurgery," said Dr. Scheinman.

Since May 2006, Dr. Chin has served as professor and chair of the Department of Neurosurgery at Boston University School of Medicine and as neurosurgeon-in-chief at Boston Medical Center.

He has served as professor of neurosurgery at the University of Maryland School of Medicine, where he directed the neurosurgery residency program (1997 to 2006) and was medical director of the University of Maryland Gamma Knife Center and Maryland Brain Tumor Center (1996 to 2006).

Dr. Chin is the recipient of numerous honors, awards and visiting professorships and has held a range of leadership positions in the American Association of Neurological Surgeons, the Congress of Neurological Surgeons, and other organizations.

His work has been published in several peer-reviewed journals, and he serves as a reviewer for the *Journal of Neurosurgery*, *Neurosurgery*, *Neurosurgical Focus*, *Journal of Neuro-Oncology*, *Endocrine Practice* and *World Neurosurgery*.

Dr. Chin received his bachelor's degree in cellular and molecular biology, summa cum laude, (1983) and his medical degree with honors (1987) from the University of Michigan. His post-graduate training in general surgery was completed at the Los Angeles County General Hospital (1988) and in neurological surgery at the University of Southern California (1994).

He is a diplomate of the American Board of Neurological Surgery.



Gennady Bratslavsky MD: Department of Urology

Gennady Bratslavsky MD has been named professor and chair of the department of Urology at Upstate Medical University. Dr. Bratslavsky succeeds Imad Nsouli, MD, who served as interim department chair.

Prior to Upstate, Dr. Bratslavsky was a staff clinician with the Urologic Oncology Branch of the National Cancer Institute (NCI) of the National Institutes of Health (NIH), a position he held since 2007. He served as a clinical fellow in urologic oncology for that same branch of the NCI/NIH, from 2005 to 2007.

Since August 2010, he has served as a consultant to the Gastroenterology and Urology Devices Panel of the Medical Devices Advisory Committee for the U.S. Food and Drug Administration and as a Steering Committee member of the Genitourinary Oncology Center of Excellence for the Clinical Research Center of the NIH.

“Dr. Bratslavsky is a remarkably talented surgeon, investigator, teacher and role model,” said Dr. Scheinman. “He is a pioneer in robotic-assisted renal and adrenal surgeries. He has performed numerous reoperative renal surgeries, popularized surgical, functional, and oncologic outcomes, and created a new frontier for nephron-sparing procedures.”

Dr. Bratslavsky has recorded many firsts in complex surgeries for urologic cancer.

He is also accomplished in both clinical and laboratory research on urologic cancer, including the first robotic removal at the NCI of the bladder and prostate in a male, as well as anterior exenteration in a female.

He has published more than 50 peer-reviewed manuscripts and a dozen chapters and invited editorials.

Robert Silverman MD: Department of Obstetrics/Gynecology

Robert Silverman MD has been named professor and chair of the Department of Obstetrics and Gynecology at Upstate Medical University.

Dr. Silverman succeeds Shawky Badawy MD, who led the department as chair for the past 13 years. Dr. Badawy remains on the Upstate faculty as professor of obstetrics and gynecology and continues in his role as director of Upstate’s division of Reproductive Endocrinology and Infertility.

“Dr. Silverman is a respected specialist in maternal-fetal medicine,” said Dr. Scheinman. “He has published and lectured extensively on prenatal diagnosis of a range of fetal disorders. He has developed a comprehensive fetal diagnostic unit in which he and his team diagnose and treat complex fetal abnormalities using advanced obstetrical ultrasound and invasive fetal techniques including cordocentesis, in-utero shunt placement and in-utero blood transfusions.”

Dr. Silverman will continue with his responsibilities at Upstate as division chief of Maternal-Fetal Medicine; obstetrical director of the Regional Perinatal Program; and director of the Regional Genetics Program. He also serves as director of High-Risk Obstetrics and as chair of the Ob/Gyn Quality Assurance Committee at Crouse Hospital.

Dr. Silverman joined Upstate’s Department of Obstetrics and Gynecology in 1988 as a clinical instructor. He was promoted to the rank of assistant professor in 1991, associate professor in 1999, and professor in 2009.

A member of numerous professional organizations in the fields of obstetrics and gynecology, maternal-fetal medicine, and genetics, Dr. Silverman is a recognized expert in obesity in pregnancy. He serves on many state and national committees and is a peer reviewer for several journals including the *American Journal of Obstetrics and Gynecology* and *Obstetrics*. ■