



# Weill Cornell Medicine

## Brain and Spine Center

News and Updates From the Weill Cornell Department of Neurological Surgery

Fall 2016

### A MESSAGE FROM THE CHAIR

#### Philip E. Stieg, PhD, MD

Dear Friends and Colleagues,

I'm delighted to bring you this inaugural edition of our new department newsletter, which highlights a few of the exciting initiatives of the past few months.

In June *New York* magazine published its annual listing of "Best Doctors in New York," and I'm proud to have eight members of our team on the list. I was joined this year by Dr. Mark Souweidane, vice chair of the department and director of pediatric neurosurgery; Dr. Y. Pierre Gobin, director of interventional neuroradiology; Dr. Roger Härtl, chief of spinal surgery; Dr. Theodore Schwartz, specialist in endoscopic skull base and minimally invasive epilepsy surgery; and Drs. Mark Bilsky, Philip Gutin, and Viviane Tabar, neurosurgeons at Memorial Sloan Kettering Cancer Center who are affiliated members of our faculty.

We opened some significant new clinical trials this summer, including a new trial testing venous sinus stenting to resolve pulsatile tinnitus (Dr. Athos Patsalides), and our first-ever trial of viral therapy for brain tumors (Dr. Rohan Ramakrishna). Dr. Souweidane completed his innovative clinical trial testing interstitial infusion (also known as convection-enhanced delivery, or CED) for the fatal pediatric brain tumor DIPG, and is now preparing findings for publication and doing the preparatory work required for the next phases of the trial.

We also hosted the New York City Regional Cancer Moonshot Summit in partnership with Vice President Joe Biden. Several of the neurological surgery faculty participated, and I'm especially thankful to the oncology specialists who joined us, including Dr. Lewis Cantley, Dr. David Nanus, Dr. Silvia Formenti, Dr. Himisha Beltran, Dr. Allyson Ocean, Dr. Gail Roboz, and Dr. Ching Tung. The speakers and panelists brought some unique insights to the summit, and they will be shared with the national Cancer Moonshot team in Washington.

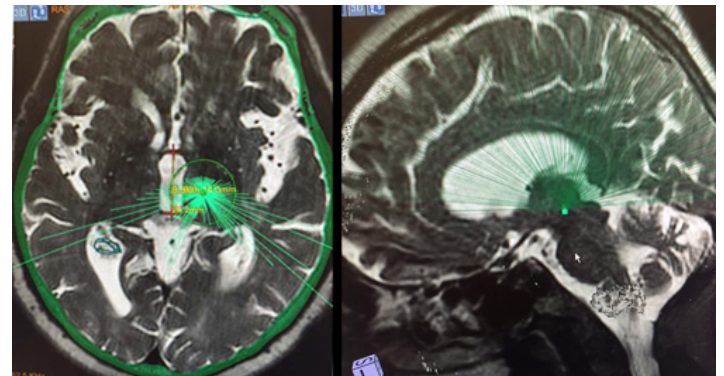
You can always find out what's happening by visiting our news page at [weillcornellbrainandspine.org](http://weillcornellbrainandspine.org). While you're there I invite you to take a look at our new blog, where the neurological surgery team will weigh in on issues, trends, and cases that are on their mind. We'll have much more to share there, and in upcoming issues of this newsletter.

Warm wishes,



### Dr. Kaplitt First in NY to Treat Tremor With Focused Ultrasound

Last month Dr. Michael Kaplitt became the first doctor in New York to use high-intensity focused ultrasound to treat a patient's essential tremor. The procedure is part of a new clinical trial testing the use of this technology to eliminate the source of tremors in a completely non-invasive way. Dr. Kaplitt and his neurosurgical team, along with Dr. Levi Chazen from Radiology and Dr. Harini Sarva from Neurology, were able to watch as the patient's tremor diminished visibly during the procedure.



A slice of the focused ultrasound beam plan shows some of the nearly 1,000 beams directed at the source of the tremors. Left: the axial view; right: the sagittal view.

The new focused ultrasound procedure takes advantage of a technology that has been successfully used in the past to treat uterine fibroids and breast and prostate cancer. Adapting this to the brain required more advanced technology to overcome the obstacle of sound penetration through the skull and to ensure the precision necessary to accurately reach the desired target without the ultrasound affecting the rest of the brain. This technology is still being used under a study that Weill Cornell is participating in, but it was approved by the FDA in July for use on patients with essential tremor and should be available to any qualified patient in the next few months.

The new procedure relies on magnetic resonance imaging (MRI) to pinpoint the exact location in the brain where tremors originate, then uses MRI guidance to focus the many ultrasound waves on that location. The patient, who is awake throughout the procedure, is fitted with a helmet that holds an array of 1,000 sources of ultrasound energy, each beam so small and low energy that it passes harmlessly through healthy brain tissue on its way to the target. The device uses MR thermometry to measure the temperature at the target and elsewhere in the brain during the procedure, and adjusts the energy emanating from each of the 1,000 sources so that precisely the right amount of energy reaches the target. No single wave damages surrounding brain tissue, but the sum of the energy reaching the focus is enough to greatly reduce—or even eliminate—the tremors.

## NEWYORK-PRESBYTERIAN/ WEILL CORNELL

### Cerebrovascular Surgery

Aneurysms, AVMs, Carotid Occlusive Disease  
Dr. Philip E. Stieg 212-746-4684  
Dr. Jared Knopman 212-746-5149

### Brain Tumor Surgery

Benign and malignant tumors in adults and children  
Dr. Philip E. Stieg 212-746-4684  
Dr. Susan Pannullo 212-746-2438  
Dr. Rohan Ramakrishna 212-746-1996  
Dr. Theodore Schwartz 212-746-5620  
Dr. Mark Souweidane 212-746-2363 (pediatric)  
Dr. Jeffrey Greenfield 212-746-2363 (pediatric)

### Epilepsy Surgery

Curative and palliative surgical approaches to epilepsy  
Dr. Theodore H. Schwartz 212-746-5620  
Dr. Jeffrey Greenfield 212-746-2363 (pediatric)  
Dr. Caitlin Hoffman 212-746-2363

### Interventional Neuroradiology

Minimally invasive image-guided diagnosis and treatment  
Dr. Y. Pierre Gobin 212-746-4998  
Dr. Athos Patsalides 212-746-2821  
Dr. Jared Knopman 212-746-5149

### Movement Disorders

Parkinson's Disease, Essential Tremor, Spasticity, Dystonia  
Dr. Michael Kaplitt 212-746-4966

### Neuro-oncology

Comprehensive treatment options for cancers of the brain and spine  
Dr. Howard Fine 212-746-2596  
Dr. Susan Pannullo 212-746-2438  
Dr. Rajiv Magge 646-962-2185

### Neuropsychology

Testing, Imaging, Psychotherapy, and Cognitive Remediation  
Kenneth Perrine, PhD 212-746-2197  
Amanda Sacks, PhD 212-746-3356

### Pediatric Neurosurgery

Treatment of the full spectrum of CNS conditions in children  
Dr. Mark Souweidane 212-746-2363  
Dr. Jeffrey Greenfield 212-746-2363  
Dr. Caitlin Hoffman 212-746-2363

### Pituitary Tumors

Endoscopic approaches to anterior skull base surgery  
Dr. Theodore H. Schwartz 212-746-5620  
Dr. Rohan Ramakrishna 212-746-1996

### Spinal Surgery

Comprehensive care for spine conditions and injuries  
Dr. Roger Härtl 212-746-2152  
Dr. Eric Elowitz 212-746-2870  
Dr. Kai-Ming Fu 212-746-2260  
Dr. Rohan Ramakrishna 212-746-1996  
Dr. Jared Knopman 212-746-5149  
Dr. Ali Baaj 212-746-1164

### Stereotactic Radiosurgery

Noninvasive treatments for brain tumors and other conditions  
Dr. Susan Pannullo 212-746-2438

## NEWYORK-PRESBYTERIAN/LOWER MANHATTAN

Dr. Samuel Kim 646-962-5115

## NEWYORK-PRESBYTERIAN/QUEENS

Dr. Ning Lin 212-670-1837

## Dr. Michael Apuzzo Joins Faculty

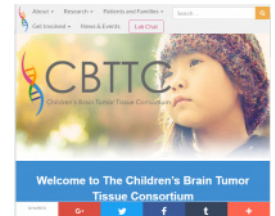
The internationally renowned neurosurgeon Dr. Michael L. J. Apuzzo has been appointed Adjunct Professor of Neurological Surgery at the Weill Cornell Brain and Spine Center. Dr. Apuzzo's career has focused on disorders of the human cerebrum and on the application of emerging technology and progressive neuroscience in creative and innovative methods to advance the field.



At the Weill Cornell Medicine Brain and Spine Center, Dr. Apuzzo will mentor faculty, residents, fellows, and students and will participate in the Department of Neurological Surgery's educational activities. He will advise the department on the expansion of its radiosurgery program, the development of an Office of Academic Publishing, and ongoing projects with the journal *World Neurosurgery*. He will also serve in an advisory capacity on the development of both clinical and laboratory neurosciences and will focus on enhancing international and global perspectives within the department.

## Weill Cornell Accepted Into Children's Brain Tumor Tissue Consortium

The Weill Cornell Medicine Pediatric Brain and Spine Center is now a full member of the Children's Brain Tumor Tissue Consortium (CBTTC), an elite group of medical institutions dedicated to collaborating on pediatric brain tumor research. Members commit to collecting and sequencing high-quality brain tumor specimens; they then develop cell lines and tumor models from the samples and share their results with other CBTTC members to accelerate scientific discovery around pediatric brain tumors.



The CBTTC is hosted at the Children's Hospital of Philadelphia (CHOP) and now includes eight full members. Weill Cornell's admission into this consortium is a major step forward for the Children's Brain Tumor Project, which now has world-class partner institutions with which to share data, findings, and our passion for finding cures for rare and inoperable brain tumors of childhood and adolescence.

## The Best in NYC, Again

The 2016 hospital ratings issue of U.S. News & World Report names NewYork-Presbyterian Hospital the #1 hospital in New York for an amazing 16th year in a row. The Neurology and Neurosurgery service is ranked #1 in New York and #3 in the nation. We are proud of our perfect rating in technology (5/5), but we know it's not the advanced tools that make the difference—it's our world-class faculty of neurosurgeons, interventional radiologists, stereotactic radiosurgeons, neuropsychologists, and surgical and clinical neuro-oncologists who use that technology to save lives and restore patients to good health that make us the top-ranked facility that we are.



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