



A MESSAGE FROM THE CHAIR

Philip E. Stieg, PhD, MD

Dear Friends and Colleagues,

The end of one academic year and the start of a new one is always an invigorating time in a teaching hospital. Our neurological surgery residency program is one of the best in the United States, and each June I am proud to send our latest graduates out into the world, where I am confident they will advance our field and save lives.

At the same time I am delighted to welcome our new residents—the talented young medical school graduates who begin their seven-year journey with us. Please see page 4 of this newsletter for more information about our three new residents, all of whom hold such great promise as they begin their careers as neurosurgeons.

These three young doctors join a group of residents who never fail to impress me. They take on the all-consuming life of a neurosurgeon with energy, dedication, and passion, not only accepting the inevitable challenges and sacrifices but embracing them. Over the course of their training period here they learn to be excellent clinicians who provide world-class, compassionate care to our patients. They also become partners with faculty members in our research efforts, publishing award-winning papers and book chapters. They even find the time to reach out their hands to those coming up in the ranks behind them, mentoring young medical students just as they themselves are being mentored by those further along in their careers. From Day One, our residents embody the Weill Cornell Medicine mission of “Care. Discover. Teach.” See the inside pages of this newsletter for recent publications and awards, as well as news about an innovative mentorship program co-founded by a faculty member, a resident, and a medical student.

We are also proud to be a part of a new clinical trial for MPS IIIA (see story at right), a heartbreaking genetic condition with no known cure. We are partnering with our colleagues in Genetic Medicine to try to push the boundaries on this devastating disease, using new robotic technology to improve accuracy and ease the stress of surgery on these young patients as we deliver a promising new gene therapy drug. When it comes to our patients, we never stop searching for answers.

Yours in good health,

Phil Stieg



ROSA Makes Robotic Debut

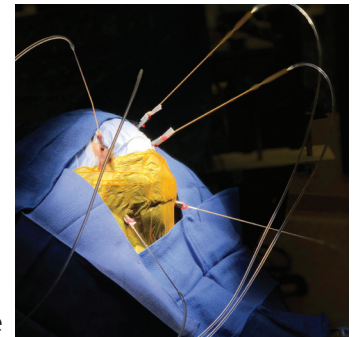
The new ROSA robot for cranial surgery recently made its highly anticipated debut this summer at NewYork-Presbyterian Weill Cornell Medicine in two surgeries a few weeks apart. In June, Dr. Mark Souweidane was the first to use the neurosurgical robot as part of a clinical trial to administer gene therapy to a child with a rare congenital disorder. In July, Dr. Theodore Schwartz became the first to use ROSA for epilepsy surgery.



Dr. Schwartz using ROSA on a patient with epilepsy

Dr. Souweidane’s young patient suffers from mucopolysaccharidosis type IIIA (MPS IIIA, also known as Sanfilippo syndrome type A), which is caused by a mutation in the SGSH gene. The mutation makes it impossible for the body to break down a sugar called heparan sulfate. MPS IIIA is a severe condition that causes cognitive dysfunction, aggression and hyperactivity, loss of hearing and vision, and sleep disturbances. Children with MPS IIIA rarely survive past their teen years.

In a new multi-center Phase 2/3 study, affected children are given multiple infusions of a virus carrying a corrected copy of the SGSH gene; using the ROSA robot helps ensure accuracy without the use of a head frame. The infused agent is LYS-SAF302 from Lyso-gene; it consists of a viral vector that contains the cDNA of the SGSH gene. Weill Cornell is one of only four locations in the United States where this trial is available.



Dr. Souweidane’s clinical trial requires precise infusions

Two weeks later, Dr. Schwartz, the David and Ursel Barnes Professor in Minimally Invasive Surgery and Director of the Center for Epilepsy and Pituitary Surgery, used ROSA in a procedure for epilepsy. As many as 80 percent of surgical patients can be cured of seizures; in others surgery may reduce seizure frequency and severity.

The complex procedure starts with localizing the seizures to determine the precise spot in the brain where they originate. Localizing is followed by brain mapping to determine what functional areas of the brain may be affected by surgery. The availability of robotic assistance increases surgical precision and holds promise for improving outcomes for patients undergoing the procedure.

ROSA, developed by the European company Medtech, was installed at NewYork-Presbyterian Weill Cornell Medicine in early 2019 and will be used in surgeries for epilepsy, brain tumors, and other conditions that require maximum precision and minimal invasiveness.

Fall CME Calendar

FALL 2019 CME REGISTER NOW

**Weill Cornell Medicine
Neurological Surgery
NewYork-Presbyterian**

 September 26 Neurosurgery and Beyond <small>A unique multidisciplinary seminar. Specialists in 5 common neurosurgical disorders will review anatomy and treatment protocols, then explore their cognitive, behavioral, and emotional implications.</small> beyondneurosurgery.org	 October 11 <small>3RD ANNUAL WEILL CORNELL MEDICINE PITUITARY SYMPOSIUM</small> Pituitary Tumors: Medical, Surgical, and Radiotherapy Treatment Options <small>Pituitary disorders can have a profound impact on development, function, and aging. This course is a comprehensive overview and discussion of the pituitary tumor and its treatments. Bring interesting cases to review.</small> pituitarysymposium.org	 November 9 Endoscopic and Open Surgical Approaches for Craniosynostosis <small>For neurosurgeons and plastic surgeons: A hands-on course in advanced surgical treatments—both open and endoscopic—for craniosynostosis, performed on unique 3D printed models of actual patients.</small> cranio-course.org	 SAVE THE DATE December 12-14 NYC-Minimally Invasive Spinal Surgery 2019 <small>This year's must-attend NYC-MISS course is now accepting abstracts for posters and oral presentations. Featuring the latest techniques and trends in robotics, navigation, and minimal access approaches. Hands-on, case-based, and can't-miss.</small> nyc-miss.org
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Questions? Email us at neurosurgery-cme@med.cornell.edu

September 26, 2019

Neurosurgery and Beyond: Addressing the Neurocognitive, Behavioral, and Emotional Needs of Our Patients

A unique multidisciplinary seminar: Specialists in five common neurosurgical disorders will review anatomy and treatment protocols, then explore their cognitive, behavioral, and emotional implications.

Register at beyondneurosurgery.org

October 11, 2019

3rd Annual Weill Cornell Medicine Pituitary Symposium Pituitary Tumors: Medical, Surgical, and Radiotherapy Treatment Options

Pituitary disorders can have a profound impact on development, function, and aging. This course is a comprehensive overview and discussion of the pituitary tumor and its treatments. Bring interesting cases to review.

Register at pituitarysymposium.org

November 9, 2019

Endoscopic and Open Surgical Approaches for Craniosynostosis: A Hands-On Practical Course

For neurosurgeons and plastic surgeons: A hands-on course in advanced surgical treatments—both open and endoscopic—for craniosynostosis, performed on unique 3D printed models of actual patients.

Register at cranio-course.org

December 12-14, 2019 NYC-MISS 2019

13th New York City Spinal MIS, Endoscopy, Robotics, 3D Navigation, and Augmented Reality Symposium: Case-based and Hands-on

This year's must-attend NYC-MISS course is now accepting abstracts for posters and oral presentations. Featuring the latest techniques and trends in robotics, navigation, and minimal access approaches.

Hands-on, case-based, and can't-miss.

CALL FOR ABSTRACTS:

This year's course will include a poster session and oral presentations
More information and registration at nyc-miss.com

For more information about courses, visit
weillcornellbrainandspine.org/continuing-medical-education

Podcast Explores Sleep, Brain Health, Concussion, and More

Over the past several months, This Is Your Brain With Dr. Phil Stieg has delivered insightful, helpful conversations about the wonders of the brain. In a series of episodes that have covered topics as varied as how to prevent (and recognize) a concussion; how your brain is behind both romantic attachment and sexual attraction; and what we're all doing wrong when it comes to sleep, Dr. Stieg has engaged in conversations with experts and patients alike to explore the many facets of having—and keeping—a healthy brain.



The podcast has been selected twice by iTunes as a New & Notable podcast in Science & Medicine, and has drawn high ratings and favorable comments from listeners. It's available on Apple Podcast (iTunes), GooglePlay, Spotify, and wherever you get your podcasts. It's also available at drphilstieg.com.

Notable Publications

Faculty members and residents produce 125+ peer-reviewed papers each year. Here are just a few recent articles:

Increased Frequency of Cataract Surgery in Patients Over Age 50 with Pituitary Macroadenomas and Chiasmal Compression

Pituitary, May 29, 2019

Gerges MM, Arnaout MM, El Asri AC, Cummock MD, Roshdy A, Anand VK, Dinkin MJ, Oliveira C, Schwartz TH

Arachnoid Web of the Spine: A Systematic Literature Review

Journal of Neurosurgery Spine, April 19, 2019

Nisson PL, Hussain I, Härtl R, Kim S, Baaj AA

Endoscopic Removal of Recurrent Colloid Cysts

Journal of Neurosurgery, April 12, 2019

Lara-Reyna JJ, Uribe-Cardenas R, Perera I, Szerlip N, Giamouriadis A, Savage N, Haussner T, Souweidane MM

Best in New York, Again

We are proud to have eight of our faculty members included in New York magazine's list of "Best Doctors in New York." The 2019 list includes Dr. Philip E. Stieg, Dr. Mark Souweidane, Dr. Roger Härtl, Dr. Eric Elowitz, and Dr. Theodore Schwartz. Three of the additional faculty we share with Memorial Sloan Kettering Cancer Center are also named on the list: Dr. Mark Bilsky, Dr. Cameron Brennan, and Dr. Viviane Tabar.



Two Residents Share Apuzzo Award

Whitney E. Parker, MD, PhD, and Benjamin I. Rapoport, MD, PhD, were named winners of the 2019 Michael L. J. Apuzzo Resident Literature Award for Creativity and Innovation for their outstanding contributions to the peer-reviewed medical literature.

Dr. Parker, who recently completed her fifth year of neurosurgical residency, won the award for “Magnetic Resonance-Guided Focused Ultrasound for Ablation of Mesial Temporal Epilepsy Circuits: Modeling and Theoretical Feasibility of a Novel Non-Invasive Approach,” which she co-authored with Dr. Caitlin Hoffman and Dr. Michael Kaplitt, along with Elizabeth K. Weidman, MD; J. Levi Chazen, MD; Sumit Niogi, MD, PhD; and Rafael Uribe-Cardenas, MD.

The paper reported on research testing the feasibility of magnetic resonance-guided focused ultrasound (MRgFUS) ablation of mesial temporal lobe epilepsy seizure circuits as a safer alternative to open surgical resection, laser ablation, and radiosurgery.

Dr. Rapoport, who just completed his sixth year of neurosurgical residency, was recognized for “Intraventricular Endoscopic Neurosurgery,” a new textbook he is co-authoring with Dr. Mark Souweidane. Dr. Rapoport’s work with Dr. Souweidane on the text provides what Dr. Apuzzo calls a “monograph classic.” The book describes all aspects of current, state-of-the-art intracranial endoscopy in the ventricular system. Dr. Apuzzo describes it as providing “not only eloquent guidelines, but a snapshot statement of the ultimate art and science of intraventricular endoscopy as it exists today.”

The Apuzzo Award, established in 2017, is named for Adjunct Professor Michael L. J. Apuzzo, MD, who is widely recognized as a pioneer in neurosurgery. Previous winners of the Apuzzo Award include Dr. Brenton Pennicooke (2017) and Dr. Thomas Link (2018).

SNS Junior Resident Course Returns

At the end of each academic year, the Society of Neurological Surgeons (SNS) holds an intensive, boot camp-style training session for residents who have just finished their first year of neurosurgery residency. For the seventh year in a row, Weill Cornell Medicine was designated the East Coast location for the SNS Junior Resident Course.

Dr. Michael Kaplitt, who directs the neurosurgery residency program at Weill Cornell Medicine and NewYork-Presbyterian Hospital, oversees the annual training program with the SNS. Weill Cornell Medicine residents and faculty worked with invited faculty from other teaching hospitals to teach and mentor this contingent of future neurosurgeons.

The two-day course was attended by 72 residents representing 40 neurosurgery programs. After a day of lectures, participants received hands-on training in the fundamentals of neurosurgery, ranging from injury simulation drills and dissection to high-tech Gamma Knife operation.



Introducing PRIMES Mentorship Program

Ethnic and racial diversity in medical school student bodies is essential to solving the health care disparity crisis in the United States. Despite the national imperative to increase participation of under-represented groups in medicine (URiM), students from disenfranchised demographics make up a small fraction of medical school graduates. Only 6% of graduates in 2015 were Black or African American, and 5% were Hispanic/Latinx; in 1974, these figures were almost identical.

To tackle this issue, last fall we created PRIMES (Program for Individualized Mentorship Education Solutions), a longitudinal, targeted, near-peer mentorship system, designed by cross-referencing American Association of Medical Colleges (AAMC) benchmarks with quantitative analyses of focus groups involving URiM students.

The program, founded by Dr. Caitlin Hoffman, MD, the Department of Neurosurgery’s Diversity Champion; Benjamin Hartley, MD, MS, a Neurosurgery Resident and Teach for America 2009 Corps Member; and Cristina Londono, BS, a third-year medical student at Weill Cornell Medical College pursuing Area-of-Concentration in Health Disparities with the PRIMES program. The

PRIMES

Mentoring for Medical School Admission

program pairs college students from underrepresented demographics who are interested in medicine with current medical students. Together, the duos progress through a comprehensive curriculum, using novel tracking tools to assess and record mastery of targeted objectives along the way.

Though only in a pilot iteration, the first cohort has already made significant improvements in their readiness for successful medical school application and matriculation. Going forward, we hope to expand the program nationally to peer institutions so that all students can have equal opportunity to pursue a medical education, regardless of their racial or ethnic background. For more information, please contact Dr. Hartley at brh9058@nyp.org.

NEWYORK-PRESBYTERIAN WEILL CORNELL MEDICINE

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. Rohan Ramakrishna 212-746-1996
Dr. Theodore H. Schwartz 212-746-5620
Dr. Babacar Cisse 646-962-3389
Dr. Mark Souweidane 212-746-2363 (pediatric)
Dr. Jeffrey Greenfield 212-746-2363 (pediatric)
Dr. Caitlin Hoffman 212-746-2363 (pediatric)

Epilepsy Surgery

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

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

Stereotactic and Functional Neurosurgery

Parkinson's disease, essential tremor, and pain
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
Dr. Babacar Cisse 646-962-3389
Dr. Rohan Ramakrishna 212-746-1996

Neuropsychology

Testing, imaging, psychotherapy, and cognitive remediation
Kenneth Perrine, PhD 212-746-2197
Amanda Sacks-Zimmerman, PhD 212-746-3356
Jessica Spat-Lemus, PhD 646-962-3336 (pediatric)

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/Neuroendocrinology

Endoscopic approaches to anterior skull base surgery
Dr. Theodore H. Schwartz 212-746-5620
Dr. Rohan Ramakrishna 212-746-1996
Dr. Babacar Cisse 646-962-3389
Dr. Jeffrey Greenfield 212-746-2363 (pediatric)
Dr. Georgiana Dobri 646-962-3556 (neuroendocrinology)

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. Ali Baaj 212-746-1164
Dr. Michael Virk 646-962-3388

Stereotactic Radiosurgery

Noninvasive treatments for brain tumors and other conditions
Dr. Susan Pannullo 212-746-2438
Dr. Rohan Ramakrishna 212-746-1996

NEWYORK-PRESBYTERIAN LOWER MANHATTAN

Dr. Samuel Kim 646-962-5115

NEWYORK-PRESBYTERIAN QUEENS

Dr. Jaime Nieto 718-670-1837
Dr. Ning Lin 718-670-1837
Dr. Srikanth Boddu 718-303-3739
Dr. Rupa Gopalan Juthani 718-670-1837

NEWYORK-PRESBYTERIAN BROOKLYN METHODIST

Dr. Martin Zonenshayn 718-246-8660
Dr. Michael Ayad 718-780-3070
Dr. George Selas 718-780-3000

Welcome to Our New Residents

We were pleased to welcome three new residents to the neurosurgery program this year. Two were paired with us in March during Match Day, the other joins us after a successful fellowship in our department.

Andrew Garton, MD

Andrew Garton received his MD from Columbia University College of Physicians and Surgeons, where he was a member of both the medical student honor society Alpha Omega Alpha and the Gold Humanism Honor Society. As a medical student, Dr. Garton worked in Dr. E. Sander Connolly's Cerebrovascular Laboratory, where he was awarded a NIH/NIA T35 grant for his investigation into biomarkers of functional outcome in intracerebral hemorrhage. Dr. Garton has taught medical students in many roles, including leading workshops for third-year medical students aiming to improve communication skills for doctors having end-of-life and goals-of-care conversations.



Alexandra Giantini Larsen, MD

Dr. Larsen is a graduate of Harvard Medical School, where she was vice president of the AANS medical student chapter and co-president of the Harvard Medical School chapter of the Association of Women Surgeons. Dr. Larsen spent a year as a Howard Hughes Medical Institute Medical Research Fellow in the laboratory of Dr. E. Antonio Chiocca at Brigham and Women's Hospital in Boston, where her research was focused on viral therapies for glioblastoma. She also has spent time as a researcher in the Vascular Biology Program at Boston Children's Hospital with Dr. Edward Smith and in the Brain Tumor Stem Cell Laboratory at Johns Hopkins Hospital with Dr. Alfredo Quinones-Hinojosa.



Rafael Uribe, MD, MHS

Dr. Uribe completed his neurosurgical residency in 2014 in his native Colombia, then earned a Master of Health Science at the Bloomberg School of Public Health at Johns Hopkins University in 2015. He completed a pediatric neurosurgery fellowship at Johns Hopkins Hospital in 2016 before coming to Weill Cornell Medicine for additional fellowship training (pediatric neurosurgery and minimally invasive endoscopic surgery in 2016-17, pediatric neurosurgery and epilepsy surgery in 2017-18, and endoscopic skull base and pituitary surgery in 2018). He was accepted into the neurosurgical residency program here to fulfill his final requirements for becoming a practicing neurosurgeon in the United States and expects to complete the program in 2023.



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