

News and Updates From Weill Cornell Medicine Neurological Surgery

WINTER 2024

A MESSAGE FROM THE CHAIR

Philip E. Stieg, PhD, MD

The rhythm of the academic year is predictable and familiar, but it never fails to excite me. As I write this, we are anticipating Match Day, when each March we discover which medical school graduates will be joining us to begin seven years of neurosurgical training. In July we will officially welcome them into our program, having just sent off our June graduates into the world. It seems that our new residents are no sooner settled in than we begin the process of screening applications for the following year!



One of the most interesting developments

I've seen over my 30 years in the field is the amazingly complex, technologically advanced sub-specialization that has evolved. When I was starting out, most neurosurgeons were part of a general surgery group and would be called in to handle any surgical need from herniated discs to aneurysms. Today at major medical centers it's almost unheard of for a neurosurgeon to be a generalist—we offer highly skilled specialists in spine, movement disorders, vascular anomalies, epilepsy, tumors, pediatric neurosurgery, neurotrauma, and pituitary conditions. Even within those sub-specialties there are extremely skilled surgeons who have advanced skills in one particular area. For example, today's young cerebrovascular neurosurgeons have developed precise endovascular approaches to AVMs, carotid blockages, and aneurysms. Tumor specialists are pioneering new minimally invasive approaches to open surgery, in many cases eliminating the need for invasive craniotomies. Spine surgeons have developed endoscopic techniques that allow them to make repairs to damaged discs through incisions so small they don't even need stitches to close. The same progress is being made in all sub-specialties, which means that a patient who requires advanced care will be treated by a neurosurgeon with years of experience in the exact procedure that individual needs. The advantages of being treated at a major medical center with that level of skill have never been more clear.

The candidates who match with us this month will likely be better prepared, more experienced, and more accomplished than my peers and I were 40 years ago. They will also be far more diverse, with more women and more non-white applicants than ever before. I am extremely proud of the class of residents we are training right now, already far more diverse than the first cohort I welcomed in 2000. With each passing year the new trainees bring with them more interesting backgrounds, wider language skills, and a better understanding of the many cultural differences they will see in their patients. It makes a world of difference to patients to be treated by physicians who have had the opportunity to share these skills with one another as they train. I consider myself extremely lucky to be practicing medicine, especially neurosurgery, at this amazing and exciting time.

Yours in good health,



Dr. Knopman Presents EMBOLISE Results at Stroke Conference

Jared Knopman, MD, Director of Cerebrovascular Surgery and Interventional Neuroradiology, recently presented results of the EMBOLISE trial at the International Stroke Conference (ISC) 2024 in Phoenix, Arizona. Dr. Knopman has been pioneering the use of endovascular treatment of subdural hematomas for nearly a decade, and he was the national co-PI for the EMBOLISE trial. His ISC presentation reported on 400 patients treated across nearly 40 national centers.

The trial analyzed endovascular embolization of the middle meningeal artery (MMA) in patients undergoing surgical evacuation of subdural hematoma. It was shown to reduce hematoma recurrence rates in patients who had undergone surgery, with no increase in adverse events. The trial evaluating the role of embolization in non-surgical subdural hematoma patients is ongoing and expected to complete enrollment later this year.

"It is extremely gratifying to present



Jared Knopman at ISC 2024

evidence supporting what I have developed and personally seen over the past decade," says Dr. Knopman." Discovering that subdural hematomas have an arterial component that could be treated with embolization dramatically changed the landscape of our understanding of this pathology and allowed us to conduct this trial. Sparing patients the risks of open surgery is a major advance in neurosurgery, and I am delighted to be among the first to offer it and now officially see it become part of standard of care. I look forward to seeing the procedure become available in hospitals everywhere, offering thousands of patients annually the benefits of this advance."

The nationwide FDA-approved trial was designed based on Dr. Knopman's early results and publications. It uses the Onyx liquid embolic system (LES) to treat chronic subdural hematoma, which is a common condition in elderly patients. (The story of the 2017 patient who agreed to be the first person treated with this innovative procedure, which got him back to running in just a few weeks is on **neurosurgery.weillcornell.org** as **Comeback of the Year.**) Dr. Knopman first published the results of this procedure in the journal *Operative Neurosurgery* in 2017, reporting on the first five patients in the world treated with embolization in lieu of open surgery.

"I am proud of Dr. Knopman for once again demonstrating the innovation and creativity of our neurosurgical team," says **Dr. Philip Stieg**. "The benefits to patients are significant when we can offer them a treatment that effectively treats a pathology while minimizing intrusion into the brain. This is a major advance for the most common neurosurgical disease, and it's very much in keeping with our drive to develop minimally invasive treatments for a wide range of neurosurgical conditions."

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FACULTY NEWS

Dr. Kashlan Joins the Faculty

Neurosurgeon Osama Kashlan, MD, has joined the faculty of Weill Cornell Medicine Neurological Surgery and will see patients at NewYork-Presbyterian Brooklyn Methodist. Dr. Kashlan is a board-certified neurosurgeon whose specialty is minimally invasive spine surgery, including innovative new endoscopic approaches to the spine. He has a special interest in global neurosurgery and has led multiple mission trips around the world.



Dr. Osama Kashlan

FACULTY PROMOTIONS

Four of our faculty members were recently promoted from Assistant Professor to Associate Professor. The promotions are in recognition of their outstanding academic and clinical endeavors



Congratulations to (L-R): Amanda Sacks-Zimmerman, PhD, ABPP-CN; Georgiana Dobri, MD, Jared Knopman, MD, and Ning Lin, MD

Topping the List of Top Doctors Once Again in 2024

Weill Cornell Neurological Surgery faculty members are honored again as some of the top doctors in their field



Ve are honored that so many of our faculty are included on the 2024 Castle Connolly list of America's Top Doctors, joining 300+ of our Weill Cornell Medicine colleagues from every discipline. Many of these top doctors have been named to this prestigious list for 10, 15, or even 20 years. This year's Top Doctors are:

Philip E. Stieg, PhD, MD Neil A. Feldstein, MD Jeffrey Greenfield, MD, PhD Roger Härtl, MD Michael G. Kaplitt, MD, PhD John Park, MD, PhD K. Daniel Riew, MD Robert B. Snow, MD, PhD

Georgiana Dobri, MD Y. Pierre Gobin, MD Theodore H. Schwartz, MD Mark M. Souweidane, MD

Also named to the list are four associated faculty members from Memorial Sloan Kettering Cancer Center, Columbia University, and Northern Westchester Hospital.

Mark H. Bilsky, MD Viviane Tabar, MD

Ezriel E. Kornel, MD Cameron W. Brennan, MD

Upcoming CME Courses

MAY 11, 2024

The Interplay of Muscle and the Neuraxis in Spine Pain: Mechanisms, Treatment, Recovery, Prevention

Directed by Neel Mehta, MD,

Roger Härtl, MD, and Norman Marcus, MD Soft tissue's role in spinal pain remains poorly understood. The pathophysiology and clinical evaluation of soft tissue is lacking in the heuristic model, contributing to suboptimal outcomes. The goal of this conference is to explore basic science and clinical approaches in the field of muscle pain management and discuss potential areas for future research and improvement.



JUNE 7-8, 2024 **Endonasal**, Transorbital, and Supraorbital: Three Minimally Invasive Approaches to the Skull Base

Directed by Theodore H. Schwartz, MD This innovative cadaver lab course will teach surgeons how to perform three minimally invasive approaches to the skull base: endonasal, transorbital, and supraorbital. The goals of the course are to teach surgeons how to perform these new approaches and to understand their indications, contraindications, and limitations. There is currently a gap in the ability of surgeons to perform these new approach-



es, since they are often not learned during a standard residency. This course will address this critical need.

Registration is now open for both of these courses. Visit neurosurgery.weill.cornell.edu/education for information.

IT'S A NO-BRAINER: EMPLOYEE RECOGNITION AWARD

he Neurosurgery Outstanding Service Award spotlights members of the department who exemplify our core values. The winner for Q4 2023 is practice supervisor Jessica Lee, MHA, who manages clini-

cal operations at our offices at 1305 York Avenue and the 70th Street Starr Pavilion.

Jessica's colleagues offer high praise, saying she has "gone above and beyond her role." In times when we have been short-handed, her colleagues say, Jessica covered for surgical coordinators besides her regular duties. "She never once complained, and always did it with a smile. She stayed late, and was in constant communication with the clinical team."



Jessica Lee, MHA, with Dr. Stieg

Our runner-up this quarter is Kate Rosen, MD, a second-year resident in neurological surgery. Her colleagues praise her for her "phenomenal patient care," adding that she "goes above and beyond for her patients, even if it means staying late, calling after hours, etc. Truly phenomenal asset to our department."

Visit neurosurgery.weillcornell.org/nominate to see previous winners and to nominate the next one. Congratulations, Jessica and Kate!

ON THE COVER

ure, it's what's inside that counts, but it's an honor to be on the outside as well. Our appearance on the cover of the March issue of the Journal of Neurosurgery was the most recent such honor in a 20-year string of cover stories. They won't all fit here, so visit **neurosurgery.weill.cornell.edu** for a complete gallery of our covers.



Journal of Neurosurgery, March 2024

Neurosurgery "The Lateral Transorbital Approach to the Medial Sphenoid Wing, Anterior Clinoid, Middle Fossa, Cavernous Sinus, and Meckel's Cave: Target-Based Classification, Approach-Related Complications, and Intermediate-Term Ocular Outcomes" Mathios D, Bobeff EJ, Longo D, Nilchian P, Estin J, Schwartz AC, Austria Q, Anand VK, Godfrey KJ, Schwartz TH



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IOURNAL OF **Journal of Neurosurgery, January 2023**

"Multidisciplinary Management of Carotid Body Tumors: A Single-Institution Case Series of 22 Patients' Ramos A, Carnevale JA, Majeed K, Kocharian

G, Hussain I, Goldberg JL, Schwarz J, Kutler DI, Knopman J, Stieg P



Journal of Neurosurgery, July 2023

"Focused Ultrasound Mediates Safe and Stable Non-Invasive Focal Gene Delivery to the Mammalian Brain" Stavarache MA, Petersen N, Jurgens E, Milsteiin E, Rosenfeld ZB, Ballon DJ, Kaplitt MG



Operative Neurosurgery, November 2022

"Ten-Step 3-Dimensional-Navigated Single-Stage Lateral Surgery With Microtubular Decompression: A Case Series"

McGrath LB Jr, Gadjradj PS, Hussain I, Takoushian E, Kirnaz S, Goldberg JL, Sommer F, Navarro-Ramirez R, Mykolajtchuk C, Ng AZ, Basilious M, Medary B, Härtl R



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Journal of Neurosurgery, January 2022 "Transseptal Interforniceal Endoscopic Removal of Superiorly Recessed Colloid Cysts" Tosi U, Uribe-Cardenas R, Lara-Reyna J, Villamater FN, Perera I, Stieg PE, Tsiouris AJ, Souweidane MM



Operative Neurosurgery, August 2019 "On the Surgical Implications of Peritrigeminal Perforating Vessels in Microvascular Decompression"

di Russo, Paolo MD; Xu, Tao MD, PhD; Cohen, Michael A MD; Perrini, Paolo MD; Stieg, Philip E PhD, MD; Evins, Alexander I PhD; Bernardo, Antonio MD

Visit neurosurgery.weill.cornell.edu for a complete gallery of covers dating back to 1996.

Bedside MRI Scans for ICU Patients

eurocritical patients have faster, less stressful access to MRI scans, thanks to a new portable MRI scanner in our 2 South ICU. The wheeled unit (nicknamed R2T2 by the care team) allows our team to perform scans right at a patient's bedside, without having to schedule time in imaging or losing time precious time in transport. "This is groundbreaking technology, and the first of its kind in New York City," says Judy Ch'ang, MD, medical director of the Neurosciences Intensive Care Unit on 2 South. "Using a portable scanner

allows us to evaluate and monitor critically ill patients without having to move them-we are able to look for signs of stroke or brain injury, and identify other issues, right at the bedside."

Unlike conventional magnetic resonance imaging (MRI) scanners, which require radiofrequency shielding to prevent interference from other nearby magnetic fields, the portable



Physician assistant Kaitlyn Twomey joins Dr. Judy Ch'ang, medical director of the Neurosciences Intensive Care Unit on 2South, in welcoming "R2T2."

scanner uses ultra-low-field magnetic resonance and does not require shielding. It can be plugged into a standard wall outlet, and its simplified design means it can be operated by a wider range of hospital personnel.

"This is a significant advance in patient care," says Philip E. Stieg, PhD, MD, chair and neurosurgeon-in-chief of NewYork-Presbyterian/Weill Cornell Medical Center. "We can get MRI imaging without moving the patient from the bed, and we can evaluate unstable patients quickly and get rapid inpatient imaging."

Taking the Stage at ASPN

Dr. Mark Souweidane and Dr. Caitlin Hoffman presented at the 2024 meeting of the American Society of Pediatric Neurosurgeons (ASPN), held in January in Hawaii. Dr. Souweidane's keynote Master Series presentation, "Surgery of the Third Ventricle Revisited in an Endoscopic Era," explored his internationally acclaimed experience in minimally invasive approaches toward intraventricular surgery, and the advances he has been part of pioneering.



Dr. Hoffman presented an abstract, "The Role of VSP in Endoscopic Suturectomy–A Case Review and Qualification of Utility," which focused on virtual surgical planning for craniosynostosis repair. Dr. Hoffman is the Director of Craniofacial Surgery and co-directs (with Dr. Thomas Imahiyerobo) the intercampus Craniosynostosis Surgery Program at Weill Cornell Medicine and Columbia. Virtual surgical planning allows for greater precision in both endoscopic and open approaches toward the treatment of craniosynostosis, optimizing outcomes and decreasing operative time and risk.

FACULTY DIRECTORY

Brain Tumor Surgery

Benign and malignant tumors in adults and children Philip E. Stieg, PhD, MD 212-746-4684 Theodore H. Schwartz, MD 212-746-5620 Babacar Cisse, MD, PhD 646-962-3389

Pediatric: Mark Souweidane, MD 212-746-2363 Jeffrey Greenfield, MD, PhD 212-746-2363 Caitlin Hoffman, MD 212-746-2363

Cerebrovascular Surgery

Aneurysms, AVMs, carotid occlusive disease Philip E. Stieg, PhD, MD 212-746-4684 Jared Knopman, MD 212-746-5149 Justin Schwarz, MD 212-746-2821

CSF Leak Repair

Multidisciplinary management of cranial and spinal CSF leaks John Park, MD, PhD 718-670-1837 Jeffrey Greenfield, MD, PhD 212-746-2363 (pediatric)

Epilepsy Surgery

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

Interventional Neuroradiology

Minimally invasive image-guided diagnosis and treatment Jared Knopman, MD 212-746-5149 Y. Pierre Gobin, MD 212-746-4998 Srikanth Boddu, MS, MRCS, FRCR, MD 212-746-2821 Justin Schwarz, MD 212-746-2821 Ning Lin, MD 718-670-1837

Neuro-oncology

Comprehensive treatment options for cancers of the brain and spine Susan Pannullo, MD 212-746-2438 Rajiv Magge, MD 646-962-2185 Husain Danish, MD 212-746-6575

Neuropsychology

Testing, psychotherapy, and cognitive remediation **H. Allison Bender, PhD, ABPP** 212-746-2197 **Amanda Sacks-Zimmerman, PhD, ABPP** 212-746-3356

Pediatric Neurosurgery

Treatment of the full spectrum of CNS conditions in children Mark Souweidane, MD 212-746-2363 Jeffrey Greenfield, MD, PhD 212-746-2363 Caitlin Hoffman, MD 212-746-2363 Neil Feldstein, MD 212-305-1396 (Columbia campus)

Pituitary Tumors/Neuroendocrinology

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

Stereotactic/Functional Neurosurgery

Parkinson's disease, essential tremor, and pain Michael Kaplitt, MD, PhD 212-746-4966



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Stereotactic Radiosurgery

Noninvasive treatments for brain tumors and other conditions Susan Pannullo, MD 212-746-2438 Rohan Ramakrishna, MD 718-780-3070 Babacar Cisse, MD, PhD 646-962-3389

Och Spine at NewYork-Presbyterian/ Weill Cornell Medical Center

Comprehensive care for spine conditions and injuries Call for appointment: 888-922-2257 comprehensivespine.weillcornell.org

Roger Härtl, MD, Director of Spinal Surgery Kai-Ming Fu, MD, PhD Ibrahim Hussain, MD, PhD Paul Park, MD, MMS Daniel Riew, MD Robert Snow, MD, PhD Michael Virk, MD, PhD

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NewYork-Presbyterian Lower Manhattan

Call for appointment: 646-962-5115 Minimally invasive and complex spine

Kai-Ming Fu, MD, PhD Chief of Neurosurgery

NewYork-Presbyterian Queens Call for appointment: 718-670-1837

John Park, MD, PhD Chief of Neurosurgery Brain tumors, neuro-oncology Ning Lin, MD Cerebrovascular surgery Srikanth Boddu, MS, MRCS, FRCR, MD interventional neuroradiology Caitlin Hoffman, MD Pediatric neurosurgery (212-746-2363)

Och Spine at NewYork-Presbyterian Queens

Minimally invasive and complex spine Lynn McGrath, Jr., MD, PhD Galal Elsayed, MD

NewYork-Presbyterian Brooklyn Methodist Call for appointment: 718-780-3070

Rohan Ramakrishna, MD Chief of Neurosurgery Brain tumors, neuro-oncology, stereotactic radiosurgery Michael Ayad, MD, PhD Cerebrovascular surgery Justin Schwarz, MD, Cerebrovascular surgery Martin Zonenshayn, MD Movement disorders, peripheral nerve conditions

Minimally invasive and complex spine Osama Kashlan, MD, MPH Paul Park, MD, MMS

Caitlin Hoffman, MD Pediatric neurosurgery (212-746-2363)