

UNIVERSITY OF ROCHESTER MEDICAL CENTER

# NEUROSURGERY



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MEDICINE

# RESIDENCY PROGRAM



**Webster Pilcher, M.D., Ph.D.**  
Department Chairman



**Howard Silberstein, M.D.**  
Program Director



**G. Edward Vates, M.D., Ph.D.**  
Associate Program Director

## URMC Neurosurgery Residency Program

Our training emphasized early immersion, progressive autonomy, and flexibility to pursue subspecialty interesting, leading to mastery of general neurosurgery.

### Junior Residency

During their months on the Neurosurgery service, interns take daytime call with ample in-house backup.

Second and third years include a lot of independent call during which residents become comfortable with primary responsibility for neurosurgical emergencies. Junior residents who are not on call staff operative cases, typically as the first assistant to an attending surgeon.

### Senior Residency

Fourth year residents function as chief of service at Highland Hospital and on our bustling Vascular service.

The fifth and sixth years have traditionally been reserved for dedicated research and subspecialty training.

### Chief Year

Seventh year residents are Chief of Service at Strong Memorial Hospital. Through a broad and deep operative experience, graduating chiefs will become independent with all general neurosurgical cases.



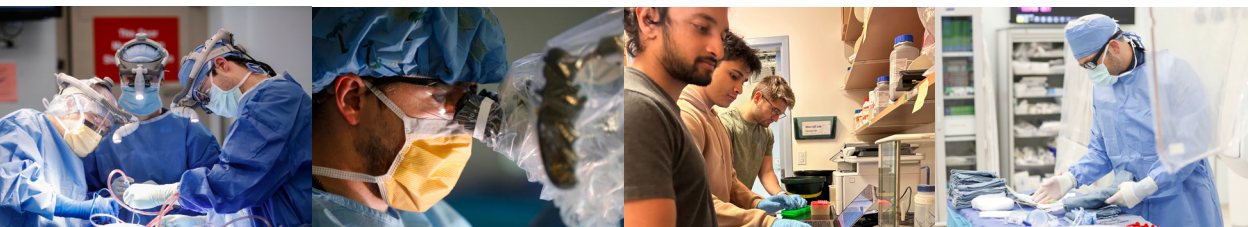
# CURRICULUM



As Neurosurgery moves toward increased sub-specialization and more meetings take place on Zoom, we believe in-person “signout” rounds are an essential part of resident education. Residents and faculty gather daily at 645am to “run the list” of our 40-70 patient service, covering relevant imaging, diagnostic dilemmas, and complications.

Academic conference follows signout on Fridays, with a one-hour main lecture and 30 minutes dedicated to M&M or “clinical case management”. A limited number of urgent cases start at 9am on Fridays, with the rest of the morning remaining protected for junior residents to participate in didactics covering neuropathology, neuroradiology, and neuroanatomy as they prepare for written boards.

2023.2024	July-Sept	Oct-Dec	Jan-Mar	April-June
PGY-1	Gen Surg	Neuro ICU	Path/Radiology	Neurosurgery- SMH
PGY-1	NeuroICU	Gen Surg	Neurosurgery- SMH	Path/Radiology
PGY-2	Neurosurgery - SMH	Neurosurgery - SMH	Stroke - CV	Stroke - CV
PGY-2	Stroke - CV	Stroke - CV	Neurosurgery - SMH	Neurosurgery - SMH
PGY-3	Neurosurgery - SMH	Neurosurgery - SMH	Neurology	Neurosurgery - SMH
PGY-3	Neurosurgery - SMH	Neurosurgery - SMH	Neurosurgery - SMH	Neurology
PGY-4	Highland	Highland	Stroke - CV	Stroke - CV
PGY-4	Stroke - CV	Stroke - CV	Highland	Highland
PGY-5	Research	Research	Research	Research
PGY-5	Research	Research	Research	Research
PGY-6	Community Neurosurgery	Community Neurosurgery	Ortho Spine	Ortho Spine
PGY-6	Ortho Spine	Ortho Spine	Community Neurosurgery	Community Neurosurgery
PGY-7	Chief - SMH	Chief - SMH	Chief - SMH	Chief - SMH



# PROGRAMS OF EXCELLENCE

## Neuro-Oncology

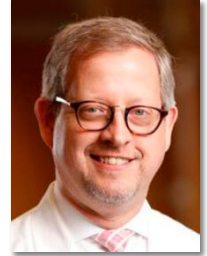
Kevin Walter and Tyler Schmidt are our busiest brain tumor surgeons, and through collaborations with the Wilmot Cancer Center we have the busiest brain tumor program in Upstate New York, with more than 300 brain tumor resections annually. Closely collaborating with Otolaryngology and Endocrinology, Edward Vates performs 60-80 endoscopic transphenoidal surgeries each year.



Kevin Walter, M.D.



Tyler Schmidt, D.O.



G. Edward Vates, M.D., Ph.D.

## Vascular

Tarun Bhalla leads our group of three dual-trained vascular neurosurgeons including Thomas Mattingly and Matthew Bender. We treat >100 aneurysms (about half are ruptured cases) and perform >150 stroke thrombectomies annually. We have an enfolded CAST-accredited fellowship in endovascular neurosurgery, and a mobile stroke unit that targets stroke evaluation and treatment to underserved and historically under-resourced communities in our area.



Tarun Bhalla M.D., Ph.D.



Matthew Bender, M.D.



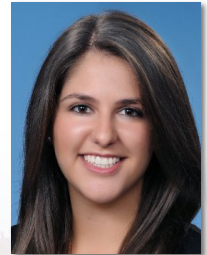
Thomas Mattingly, M.D.

## Pediatric Neurosurgery:

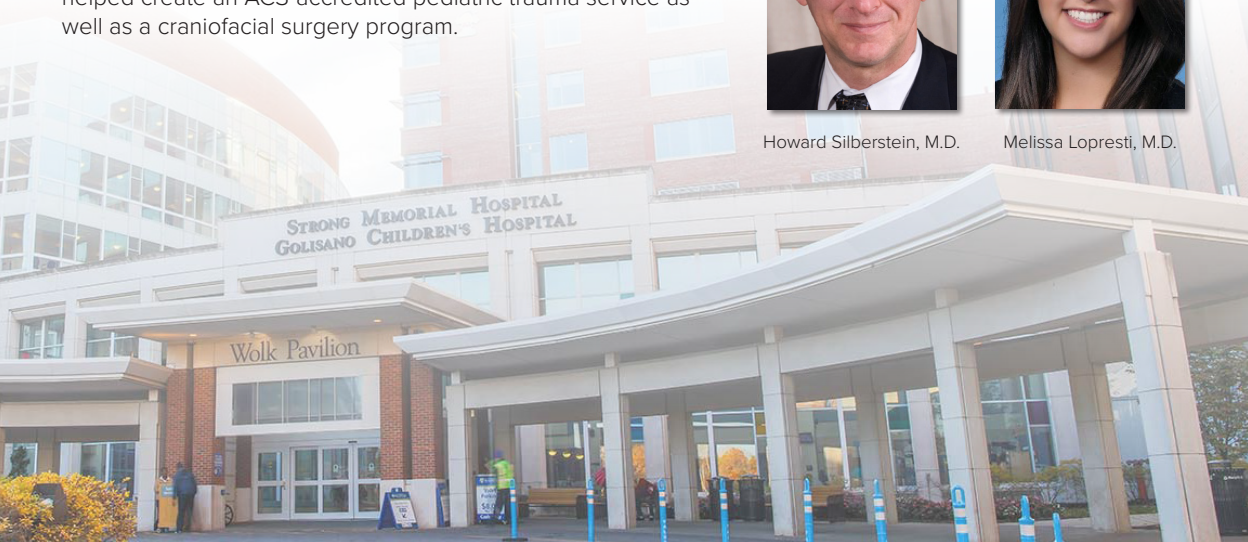
In 2023, Melissa Lopresti joined Howard Silberstein as our second fellowship-trained pediatric neurosurgeon. Together with other colleagues in Golisano Children's Hospital, we have helped create an ACS-accredited pediatric trauma service as well as a craniofacial surgery program.



Howard Silberstein, M.D.



Melissa Lopresti, M.D.



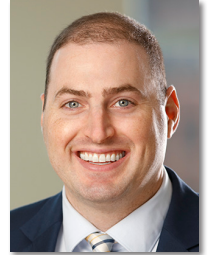
# PROGRAMS OF EXCELLENCE

## Spine:

Pierre Girgis and Jonathan Stone are some of our busiest spine surgeons, although most faculty care for spine patients. Spine trauma call is shared with Orthopaedic Surgery, and there are opportunities for residents to work with surgeons in both departments. Dr. Stone also completed fellowship training and specializes in peripheral nerve surgery, including nerve decompression, trauma repair, plexus reconstruction, and tumor excisions.



Pierre Girgis, M.D.



Jonathan Stone, M.D.

## Functional:

Andrew Wensel specializes in surgical treatment of movement disorders including deep brain stimulation for Parkinson's disease, dystonia, and tremor. Webster Pilcher developed our epilepsy program and includes functional imaging and awake brain mapping to treat patients and drive research into brain function. Both programs are supported by our colleagues in Neurology who are world leaders in clinical trials in neurologic disorders.



Webster Pilcher, M.D., Ph.D.



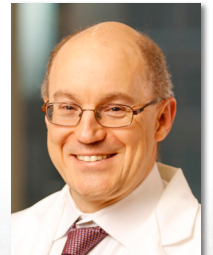
Andrew Wensel, M.D.

## Neuromedicine Critical Care

Our Neuro-ICU is run by Debra Roberts (medical director) and Thomas Mattingly (surgical director). It is staffed by six dedicated intensivists. Multiple residents have pursued CAST-certified enfolded fellowship in Neurocritical Care. In 2024, David Paul will be rejoining our department as a surgeon and intensivist, with a focus on the treatment of cranial and spinal trauma in underserved/under-resourced populations within Rochester.



Debra Roberts, M.D., Ph.D.



Thomas Mattingly, M.D.



David Paul, M.D.

MELIORA

# RESIDENT RESEARCH & SUB-SPECIALTY INTERESTS



Redi Rahmani, M.D.



Gurkirat Kohli, M.D.

## Vascular / Skull Base Neurosurgery

**Redi Rahmani, M.D.:** "I'm unusual in that I really felt called to be a vascular neurosurgeon from an early age. My proudest accomplishment is a trial of lumbar drainage (as opposed to EVD) for subarachnoid hemorrhage that I designed as an intern and that is being prepared for publication now. I'm excited to be doing a post-residency fellowship with Dr. Michael Lawton at the Barrow."

**Gurkirat Kohli, M.D.:** "I started with a deep interest in skull base neurosurgery. I am spending my PGY5 as a clinical and research fellow for Dr. Aaron Cohen-Gadol (founder of Neurosurgical Atlas) at the University of Indiana. I'm planning to do the CAST-accredited endovascular fellowship during my PGY7 and a post-graduate skull base fellowship."



## Pediatric Neurosurgery

**Catherine Wassef, M.D.:** "I'm currently a PGY7 chief resident at Strong Memorial Hospital, applying to pediatric neurosurgery fellowship. Our program has a deep connection with surgeons at the University of Melbourne, which gave me the opportunity to spend six months there with Dr. Kate Drummond, operating and doing research on quality of life in brain tumor patients."

**Catherine Jay, M.D.:** "I love the hands-on, family-centered, and lifelong commitment that is Pediatric Neurosurgery. I value seeing these patients at every stage of our training as residents and feel lucky to have landed at a level 1 pediatric trauma center with a large catchment area. Research-wise, I am leading the URM contribution to a national study evaluating the increase in intracranial infections seen after the COVID pandemic."



Catherine Wassef, M.D.



Catherine Jay, M.D.



# RESIDENT RESEARCH & SUB-SPECIALTY INTERESTS

## Spinal Neurosurgery

**Gabrielle Santangelo, M.D.:** “I realized as a fourth year resident that my passion was in Spine. I arranged an enfolded fellowship at UPenn and a post-graduate fellowship in Spine Oncology. I’ve spent my research time working with Dr. Stone on projects related to simulation, 3D printing, and neurosurgical education.”

**David Paul, M.D.:** “I did a critical care fellowship and rotated on the Orthopedic spine service during my elective time. My research focused on hormonal biomarkers of CNS injury and big data analytics to study health inequities. I’m combining interests in spine, trauma, and critical care during fellowship at UPMC.”



Gabrielle Santangelo, M.D.



David A. Paul, M.D.



Nathaniel Ellens, M.D.



Stephen Susa, M.D.

## Vascular Neurosurgery

**Nathaniel Ellens, M.D.:** “I recently completed an enfolded endovascular fellowship with more than 700 cases. I presented on the podium at SNIS and LINNC meetings. I’m an acting chief resident now as a PGY6 and am looking forward to post-graduate endovascular fellowship at Jefferson.”

**Stephen Susa, M.D.:** “I got involved with the Neurosurgery department as a first-year medical student, helping to enroll patients in Redi’s lumbar drain study. Excited to be continuing as a PGY1 resident. Vascular has an early edge, but open to multiple career paths.”



# NEUROSURGICAL SKILLS LAB



**We opened a state-of-the-art skill laboratory in 2020, which is open to residents at all times.**

This facility features seven stations with operating microscopes. Didactic sessions led by our faculty and visiting professors occur on alternating weeks and cover a range of topics, recently including: spinal deformity, minimally-invasive spine, neuronavigation, endovascular simulation, and microvascular anastomosis.

One junior and one senior resident are also paired with an attending and provided with a cadaver head and a curriculum of cranial approaches to work through independently.





## RECENT GRADUATES



**Dr. David Paul:** Fellow to Dr. David Okonkwo at University of Pittsburgh Medical Center, training in Spine Deformity and Neurosurgical Trauma



**Dr. Redi Rahmani:** Fellow to Dr. Michael Lawton at the Barrow Neurological Institute (Phoenix, AZ), training in Open Cerebrovascular and Skull Base Neurosurgery



**Dr. Audrey Grenga:** Major, Staff Neurosurgeon at Wright Patterson Air Force Base (Dayton, OH). Deputy Consultant for Air Force Neurosurgery (the first and thus far only female neurosurgeon in the Air Force)



**Dr. Thomas Pieters:** Assistant Professor at UMass Memorial Health in Worcester, MA after completing Spine Oncology fellowship under the direction of Dr. Daniel Sciubba and Northwell Health (Long Island, NY)



**Dr. James Towner:** Attending Neurosurgeon at John H Stroger Hospital of Cook County, IL; Adjunct Instructor at Rush University Department of Neurosurgery



**Dr. Tyler Schmidt:** Assistant Professor at University of Rochester Medical Center, specializing in Neuro-Oncology and Spinal Neurosurgery



**Dr. Vanessa Milano:** Attending Neurosurgeon in Epilepsy and Functional Neurosurgery at JFK University Medical Center (Edison, NJ) after completing Stereotactic and Functional Neurosurgery under the direction of Dr. Andres Lozano at Toronto Western Hospital in Ontario, Canada

# ABOUT ROCHESTER NY



Rochester is in Upstate New York on the shores of Lake Ontario. Boating, hiking, skiing, wineries, and the Finger Lakes are all less than an hour away; the Adirondack mountains and Lake Placid ~ 4 hours; Toronto ~ 4 hours.

Cultural highlights include the Lilac Festival in May, Jazz Festival in July, and many festivals celebrating ethnic and cultural diversity throughout the summer. The internationally acclaimed Eastman School of Music hosts world class performers. Farmers markets and new breweries abound. Golf is an established Rochester tradition, and we have been a frequent host of the PGA Tournament at Oak Hill.

Rochester and the Finger Lakes region have a rich history of technical innovation (Erie Canal, Kodak, Bausch & Lomb), religious revival (the “Second Great Awakening” and the birthplace of the Church of Latter-Day Saints), and social justice (home of Susan B. Anthony and Frederick Douglass, major stop on the Underground Railroad).

The cost of living is well below the national average. Roughly half of our residents become homeowners. Local public school districts are among the best in the nation.

We don't have earthquakes, tornadoes, hurricanes, wildfires...just lots of beautiful snow in winter.

