

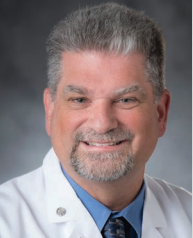


THIS IS

DUKE



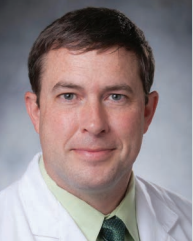
GERALD GRANT, MD
Chair, Duke Department
of Neurosurgery



MICHAEL M. HAGLUND, MD,
PhD, MACM
Vice Chair for Education,
Residency Program Director



KATHERINE MCDANIEL, PhD
Director,
Educational Initiatives



STEVEN COOK, MD
Associate Program Director



SHEROLYN PATTERSON
GME Program Administrator



THIS IS RESIDENCY AT DUKE NEUROSURGERY

Duke Neurosurgery's residency program attracts some of the brightest minds in medicine. Known for its culture of innovation and a tradition of excellence, Duke Neurosurgery helps trainees become the thought leaders and surgeons who shape the future.

We have designed our program with exacting standards to ensure it is the best in the country. In short, the kind of program we would have chosen for ourselves as residents.

The program is designed to maximize academic and surgical potential through novel approaches to education. For example, the Surgical Autonomy Program permits all residents to advance through specific steps for every type of operation, culminating in their ability to perform all procedures. Meanwhile, features such as an elective Physician-Scientist Track, a robust Global Neurosurgery Division, and a NeuroInnovations Program offer one-of-a-kind opportunities for residents to foster the interests that will make them highly desirable in their field.


We enthusiastically look forward to working with our next class!

HOSPITALS

- Duke University Hospital
- Duke Raleigh Hospital
- Duke Regional Hospital
- Durham VA Medical Center

**RELATED CENTERS, INSTITUTES,
AND PROGRAMS**

- The Preston Robert Tisch
Brain Tumor Center at Duke
- Duke Spine Center
- Duke Center for Brain and Spine
Metastasis
- Duke Global Neurosurgery
and Neurology
- Duke Stroke Center
- Duke Institute for Brain Sciences
- Pediatric Brain Tumor
Foundation Institute at Duke
- Brain Imaging and Analysis
Center
- Duke Skull Base Center



Duke Neurosurgery is engaged in all clinical subspecialties of neurosurgery, providing not only outstanding clinical service, but exploration of innovative therapies for neurosurgical diseases.

BRAIN TUMOR The nationally and internationally recognized Preston Robert Tisch Brain Tumor Center employs an integrative approach for the treatment of brain tumors.

BRAIN AND SPINE METASTASIS Duke Neurosurgery is leading the multidisciplinary center that focuses on the management of metastatic brain and spine tumors, using advanced therapies to extend life for people who may have been told they are out of options.

CEREBROVASCULAR Our cerebrovascular and stroke programs thrive in conjunction with the departments of Neurology and Radiology.

FUNCTIONAL NEUROSURGERY Duke Neurosurgery's growing functional neurosurgery practice offers deep brain stimulation, epilepsy surgery, and surgery to treat chronic pain.

SPINE The Combined Spine Division, a collaboration between the Departments of Neurosurgery and Orthopedics, is pioneering advanced surgical treatments for spinal tumors and deformities as well as minimally invasive surgery for more limited spinal disorders.

PEDIATRIC NEUROSURGERY Our team treats all cranial and spinal disorders of childhood. Multidisciplinary programs care for children with brain tumors, intractable epilepsy, spasticity, congenital brachial plexopathies, Chiari 1 malformations, hydrocephalus, craniosynostosis, and spina bifida.

PERIPHERAL NERVE SURGERY Duke neurosurgeons treat patients with conditions such as nerve entrapment, nerve pain, nerve tumors, ganglion cysts, nerve trauma, brachial plexus injury, and more.

SKULL BASE SURGERY The Duke Skull Base Surgery Center was formally established in 2011 as a collaborative effort between the Department of Neurosurgery and the Division of Otolaryngology, Head & Neck Surgery.

TRAUMA Duke Neurosurgery provides Level 1 trauma coverage for Duke University Hospital.

RECENT HIGHLIGHTS

JANUARY 2022

Faculty member **Derek Southwell, MD, PhD**, having performed the first deep brain stimulation (DBS) procedure for epilepsy in NC, now has treated more than 30 patients. Also this month, Southwell describes a new asleep DBS procedure for movement disorders, which increases the comfort and safety for patients.

FEBRUARY 2022

Duke Neurosurgery has been ranked fifth among the nation's neurosurgery departments, based on National Institutes of Health (NIH) research grant funding. Duke Neurosurgery's **John Sampson, MD, PhD**, is named the second highest funded neurosurgeon researcher by the NIH, and eight other Duke Neurosurgery investigators were ranked among the most highly funded.

FEBRUARY 2022

Faculty member **Muhammad Abd-El-Barr, MD**, describes his innovative work in awake spine fusion at AANS/Spine Section.

FEBRUARY 2022

Faculty member **Steve Cook, MD**, is featured on ESPN after successfully treating Durham Bulls pitcher Tyler Zombro, who suffered a fractured skull from a line drive.

Derek Southwell, MD, PhD



Steve Cook, MD



APRIL 2022

Spine Division Chief **Christopher Shaffrey, MD**, receives the AANS Cushing Award for Technical Excellence and Innovation in Neurosurgery

APRIL 2022

Gerald Grant, MD, moves from Stanford University to Duke to become chair of the Department of Neurosurgery

July 2022

Duke Neurosurgery is ranked among the best in the country by *US News & World Report*.

AUGUST 2022

Duke brain tumor study highlights differences among Hispanics. Duke Neurosurgery faculty member and author of the study, **Quinn Ostrom, PhD**, is also named among Duke University's most highly cited scholars.

SEPTEMBER 2022

Duke is named a Center of Excellence for cerebral cavernous malformations (CCM), recognizing Duke for providing expert, integrated, multi-disciplinary care and cutting-edge research to CCM patients.

OCTOBER 2022

One of the oldest brain tumor centers in the country, the Preston Robert Brain Tumor Center at Duke marks 85 years.

NOVEMBER 2022

Duke researchers have identified a unique process within the environment of deadly brain tumors that drives resistance to immune-boosting therapies and could be targeted to promote the effects of those drugs. The finding, published in *Nature Communications*, explains a vexing problem in glioblastoma, which has proven impervious to immune checkpoint inhibitors, a type of immunotherapy which has been highly effective in other cancers.

Gerald Grant, MD



Brain Tumor Center Leaders



- 7-Year program;
7th year enfolded fellowship
- Three residents per year
- Research/academic fourth year with formal leadership development
- Mentorship and professional coaching
- Surgical autonomy training model
- NeuroInnovations, an incubator for bringing devices and pharmacotherapies to market
- Humanitarian trips to Uganda with Duke Global Neurosurgery and Neurology, which performs research on traumatic brain injury and epilepsy, and uses predictive modeling to improve triage and treatment
- Monthly visiting professor
- Residency improvement process
- CAST-Approved Fellowships
 - Adult Spine
 - Neuroendovascular
 - Neurosurgical Oncology
 - Neurocritical Care
 - Pediatrics
 - Stereotactic & Functional



THE DUKE NEUROSURGERY RESIDENCY PROGRAM HAS LONG BEEN RECOGNIZED FOR CLINICAL EXCELLENCE AND AN ENVIRONMENT THAT EXPOSES TRAINEES TO A WIDE ARRAY OF DISORDERS, LEADING TO A BROAD PROFICIENCY ACROSS NEUROSURGICAL PROCEDURES.

We believe that technical and clinical skills alone are not sufficient training for a resident poised to enter the profession today.

New technologies, an expanding range of therapies, a mandate for fewer hours in which to train, an evolving practice environment, and a growing demand for coaching and wellness constitute a potent mix of challenges and opportunities. We address these challenges through an innovative curriculum which allows trainees to learn and produce according to their individual interests.

“Of all the programs I interviewed at, Duke was the best combination of academic medicine and surgical training. I chose Duke because of this and the people. The people trusted me, empowered me, and gave me the opportunity to maximize my potential.”

TIMOTHY Y. WANG, MD, NEUROLOGICAL SURGERY, PGY6

THE DUKE

DIFFERENCE



SURGICAL AUTONOMY

The Surgical Autonomy Program offers an innovative approach to resident education that utilizes a model of collaborative mentorship rather than a traditional master-apprentice model.

The Surgical Autonomy Program grew in part to answer residents' desire for increased autonomy in the OR. Modern learning theories are applied specifically to neurosurgical education.

MENTORSHIP

Duke Neurosurgery has developed a mentorship program that is aimed at developing the educational, career, social, and academic goals of each of our residents. Each resident will choose a mentor to work with and to guide them along their career path. Residents work with their mentor to develop a plan which includes measurable metrics such as board certifications and research projects as well as national networking and opportunities that will advance their careers. They meet periodically throughout the year with oversight from the program leadership to facilitate.



“Our goal is to train neurosurgeons who are clinically outstanding physicians with excellent technical skills in all foundational areas of core neurosurgery with the opportunity to dive deep in their chosen area of interest, whether clinical and/or research in tumor, vascular, spine, pediatrics, functional or any area of interest.”

MICHAEL M. HAGLUND, MD, PHD, PROGRAM DIRECTOR

RESIDENCY IMPROVEMENT PROCESS

Duke Neurosurgery residents have a big say in their own life and education. We believe that collaborative education is the best model. Therefore, our residents have chosen a group of trusted faculty – nicknamed the Gang of Five – to meet with them every other month.



During these meetings, residents identify things that need to be improved or changed and the group brainstorms solutions. Members of the Gang of Five summarize the discussion and potential solutions and send them to the program director and department chair for further review and operationalization. On alternating months, the residents meet with the chair and program director to discuss the progress made on the action items from the month before. This process means the residents have a tremendous amount of input into the educational design of the residency, how rotations work, how research is accomplished, and overall resident wellness.



Duke Neurosurgery

Neurosurgery.duke.edu
919-681-3053

5th

Highest Funded Neurosurgery Program
in the Country (*National Institutes of Health, 2021*)

#21

Duke Neurosurgery's world ranking by *Newsweek*

5,154

SURGICAL CASES IN FY 2022

65

TOTAL FACULTY

33%

One-third of our residents are women,
with 0% attrition in the past 17 years