NEUROSURGERY RESIDENCY

UNIVERSITY OF MIAMI
JACKSON MEMORIAL HOSPITAL
Message from the Program Director & Chairmen

Thank you for your interest in the Neurosurgical Residency Program at the University of Miami. Our mission has always been to train neurosurgical leaders who are committed to academic excellence and are passionate about the field of neurosurgery. Our program provides the tools necessary for long-term success, and we take pride in each resident’s career.

Our faculty consists of over 20 internationally recognized surgeons spanning the entire spectrum of neurosurgical care and performing nearly 5,000 cases each year. Our trainees benefit from this high clinical volume and finish with the skills, knowledge, and confidence to meet every neurosurgical challenge. Moreover, the clinical service is supported by a robust research infrastructure, as the Department ranks in the top 5 neurosurgery programs in NIH funding supporting basic science, translational research, and clinical trials. The support for resident-driven research is unparalleled, and the opportunity to pursue their specific interests and be academically productive is of the utmost importance to our program. Most importantly, our residency is a family, with close bonds of friendship and an atmosphere conducive to education.

The University of Miami Neurosurgical Residency Program has a proud and distinguished tradition in academic neurosurgery. Our philosophy is focused on surgical skills, academic achievement, and leadership development, with our graduates ascending to become prominent members of academic departments and leaders in organized neurosurgery.

Come join us and become part of the next generation’s leaders in neurosurgery.

ALLAN D. LEVI, MD, PHD
PROFESSOR AND CHAIRMAN

RICARDO J. KOMOTAR, MD
PROGRAM DIRECTOR

JACQUES J. MORCOS, MD
PROFESSOR & CO-CHAIRMAN
OVERVIEW

The neurosurgical training program at the University of Miami/Jackson Memorial Hospital provides an encompassing clinical experience, rich research opportunities, and faculty dedicated to resident and fellow education. As the only university medical center in South Florida, we directly serve a three county referral area of

5.5 MILLION PEOPLE.

We also receive complex neurosurgical referrals from Latin America, the Caribbean, and Europe. Our greatest source of pride is our residents/fellows and their contributions to our neurosurgical team.
The scope of practice ranges from minimally invasive spine surgery and spinal cord tumors to complex spinal instrumentation with a dedicated group of neurospine surgeons. Collectively our institution has one of the busiest spine practices in the United States.
From complex cerebrovascular surgery to translational neurosurgical oncology, our cranial practice remains unparalleled. We feature one of the busiest skullbase and neuro-oncology programs in the country with over 1000 brain tumors per year.
Nicklaus Children’s Brain Institute, is the largest pediatric neurosurgical service in Florida and one of the most recognized programs in the country.
This year is dedicated to learning the foundations and principles of neurological surgery.

The PGY2 is the cornerstone of the neurosurgery services at Jackson Memorial Hospital as the Junior resident covering the Spine, Cranial, and Neurotrauma services.

Residents will enjoy heavy operative experiences as VA Chief, UMH Junior, and Junior at Nicklaus Children’s Hospital.
PGY4

**Lead resident surgeon with heavy operative experience on the UMH, JMH Spine and JMH Cranial services.**

PGY5

Research/Enfolded Fellowship – 12 months

PGY6

Cranial – 4 months (JMH)
Spine – 4 months (JMH)
Cranial/Spine – 4 months (UMH)

PGY7

Chief Resident Cranial – 4 months (JMH)
Chief Resident Spine – 4 months (JMH)
Chief Resident Cranial/Spine – 4 months (UMH)

PGY4/PGY5

Elective years. Choose an enfolded fellowship in Spine, Neuro-Oncology, Endovascular, Neurotrauma, or Functional Neurosurgery or initiate a mentored laboratory-based research project. Four months of this time will be spent learning the basics of neurointerventional procedures.

PGY6

**Lead resident surgeon with heavy operative experience on the UMH, JMH Spine and JMH Cranial services.**

PGY7

Chief year. Residents will be responsible for all aspects of each neurosurgery service. They will spend four months on the JMH Spine, JMH Cranial and UMH services performing complex microsurgery on the full-range of neurosurgical pathologies.
The University of Miami Hospital (UMH) is a 530 bed hospital with 6 DEDICATED NEUROSURGERY OPERATING ROOMS and a full-service state-of-the-art 8 bed Neurosurgery ICU. Across the street from the Medical Campus UMH is the second busiest arm of the neurosurgical program with over 1,000 cases performed each year.
Jackson Memorial Hospital (JMH) is the largest and busiest county hospital in the United States with over 1750 beds.

**JMH serves as the only Level 1 Trauma Center for adults and children in South Florida.**

With 7 dedicated neurosurgery operating rooms and a 24 bed complex neuro-intensive care unit, our neurosurgery service remains a pillar for the treatment of complex brain and spine disorders.
Nicklaus Children’s Hospital service performs over 700 pediatric neurosurgery cases/year. Complex childhood brain tumor and epilepsy surgery are facilitated with the installment of an intraoperative magnetic resonance imaging system and large multi-disciplinary teams.
Veterans Affairs Hospital service

The Bruce Carter Miami Veterans Affairs hospital features 372 hospital beds.

As the only neurosurgery referral center for veterans in South Florida, the VA service provides essential care for those who have served our country.
“Tell me and I forget. Teach me and I remember. Involve me and I learn.”

~ Benjamin Franklin
Conferences

Monday
- Neurosurgical Oncology Case Teaching Conference

Tuesday
- Cerebrovascular Case Teaching Conference, Multispecialists of the Base of the Skull Conference

Wednesday
- Anatomy Review/Case Teaching Conference, Neurooncology Tumor Board, Resident Teaching Conference

Thursday
- Grand Rounds/Morbidity and Mortality Conference

Friday
- Spine Case Teaching Conference
FELLOWSHIPS

Cerebrovascular and Skull Base Surgery
Our program provides exposure to a comprehensive surgical service, treating the entire gamut of cerebrovascular disease and a wide spectrum of skull base tumors. The fellow works mainly with Drs. Morcos, Heros, Peterson, Starke, and Ivan, but also has regular interactions with other attendings. A state-of-the-art micro-surgical laboratory is available to fellows to increase their experience in skull base anatomy. Clinical research initiatives are strongly encouraged.

Spine
The spine service at UM/JMH is one of the busiest in the country with over 2000 cases performed a year. This fellowship is led by Dr. Wang. Fellows are exposed to a wide breadth of degenerative spine disease, spine trauma, vascular disease, and spinal tumors. Trainees are exposed to state-of-the art techniques in instrumentation, microsurgery, neurophysiological monitoring and cutting edge, minimally invasive procedures. Ample of research opportunities are available.

Neuroendovascular
The goal of the neuroendovascular fellowship is to ensure neurosurgeons, neurologists, and radiologists become experts in neurointerventional procedures. Approximately 900 cases per year are performed at Jackson Memorial Hospital. The fellow works primarily with Drs. Peterson, Starke and Yavagal (Neurology) but also has regular interactions with other members of the neurosurgery, neurology and radiology faculty. Extensive research opportunities are available.

Neuro-oncology
The fellowship in surgical neuro-oncology is led by Drs. Komotar and Ivan at the University of Miami Hospital and Jackson Memorial Hospital. As one of the largest tumor programs in the country, treating approximately 1000 brain tumors annually, our multidisciplinary team closely collaborates with medical neuro-oncology, neuropathology, and radiation oncology. The University of Miami Brain Tumor Initiative provides ample opportunities for clinical and basic science research.

Neurotrauma
Dr. Jagid is the Director of the combined clinical/research neurotrauma fellowship. Much of the clinical as well as the research activities during this fellowship are centered in our 24-bed neurological intensive care unit and the Ryder Trauma Center ICU. Trainees are exposed to all aspects of clinical neurotrauma and cutting edge neurotrauma research at The Miami Project to Cure Paralysis.
Functional
The functional fellowship, led by Dr. Jagid, focuses on treatment of movement disorders and epilepsy. The fellow is an integral part of all functional procedures and aids in expanding indications through clinical trials and research.

Pediatrics
The fellow trains as part of the Neurosurgery department’s pediatric division and in affiliation with Nicklaus Children’s Hospital. This fellow works with our pediatric neurosurgery faculty typically completing over 700 pediatric surgical cases annually.

Peripheral Nerve
Drs. Levi and Cote have specialty training in peripheral nerve surgery and do over 100 complex cases annually. Fellows will have ample opportunities to lead or assist in basic science and clinical research projects, with many of the former ongoing at the Miami Project to Cure Paralysis. Fellows will also be able to work with colleagues in orthopedic and plastic surgery through collaborative relationships.

Research
There are countless research opportunities in each of these Neurosurgery sub-specialty areas.

The Miami Project to Cure Paralysis is a comprehensive scientific research program originally focused on spinal cord injury that has expanded to all aspects of neurotrauma, neurodegenerative disease, stem cell therapy, and an array of other basic/translational research endeavors. Our residents have access to the vast research infrastructure available at UM including the University of Miami Brain Tumor Initiative (UMBTI), Hussman Institute for Human Genomics, and Clinical Translational Science Institute. The multidisciplinary UMBTI has facilitated resident-led translational research initiatives from the bench to the bedside, successfully moving forward with several investigator-initiated clinical trials (>20 ongoing clinical trials). In addition, the faculty and residents have a rich research track record of independent grant funding, ranking 4th in the nation among neurosurgery NIH funding with over $6.5 million in funding. In addition, the academic productivity of our department remains unparalleled (ranked 19th out of 103 neurosurgery residency programs for academic productivity, number of citations, impact factor etc.). The rich pedigree of our department faculty and residents fosters an ideal research environment for our trainees.
PARTNERSHIP

with Project Medishare and the Haitian Ministry of Healthy, and ENT Surgical Laboratory

Currently, Haiti has very few formally trained neurosurgeons (4) for a population of 10.5 million inhabitants, which severely impairs healthcare access. Currently, the neurosurgeon provider ratio per 100,000 people is approximately 0.04 (more than 20-fold less than that of developed countries like the United States). With no structured neurosurgical care outside of the capital, Port-au-Prince, there has been a significant need within the country for the development of formal neurosurgical training. As a result, the University of Miami Neurosurgery Program in partnership with Project Medishare and the Haitian Ministry of Health has established the first neurosurgery residency program in Haiti. By training a fully-trained general surgeon in basic neurosurgery, the residency program aims to develop capacity-building within Haiti over the course of several years. Our residents routinely travel to Haiti with their faculty mentors to facilitate sustainable neurosurgical training in a variety of subspecialties including pediatrics, spine, neurotrauma, etc. Additionally, dedicated elective time can be used by our residents to participate in further development of this initiative.
The Departments of Neurosurgery and Otolaryngology-Head and Neck Surgery of the University of Miami Miller School of Medicine are pleased to announce the creation of a fully functional microsurgical training laboratory available for residents, fellows and physicians training. The CANES Lab (Cranial Access, Neuroanatomy and ENT Surgery Laboratory) offers the opportunity to gain advanced training in microsurgery and endoscopic techniques in the areas of otology, rhinology, laryngology, microvascular surgery, skull base surgery, cranial surgery and spine surgery.

The lab is equipped with state-of-the-art operating microscopes, surgical endoscopes, electro-drill equipment, microsurgical instruments, as well as the latest in 2-D and 3-D video recording technology. Advanced video technology is available for video streaming of live surgery to the laboratory and adjacent conference room. Advanced microsurgical techniques and approaches in fresh and preserved cadaveric tissue are taught in a comfortable and safe working space. The 370 square feet laboratory has 13 surgical stations, and there is additional space for cadaveric tissue preparation and storage. The laboratory area can be expanded to the adjacent wet surgical laboratory for additional working space and/or animal live surgery. A flexible conference room that sits 30 to 40 attendants, ample lounge area, restrooms and lockers are also available.

The CANES lab is available for continuing medical education courses visiting fellows and surgeons from across the world, and for providing a venue to the industry for demonstration of new surgical instrumentation technology. Our team of faculty surgeons, surgical technicians and administrators have ample experience in the organization and teaching of educational and in-service events.
Living in Miami

Miami is an energetic global center with one of the world’s busiest airports and the largest cruise port on the planet. Residents of Miami also experience a wide array of talent at the Adrienne Arsht Center for the Performing Arts, the New World Symphony, and the Miami City Ballet. Miami also boasts professional NFL, NBA, NHL, and MLB teams.
Beaches

Area beaches have been recognized as top picks for recreation and families, and have been ranked among the best beaches by USA Today and the Travel Channel. Whether you prefer the urban lifestyle of downtown Miami or Brickell, the beachfront of Miami Beach or Key Biscayne, or the suburbs, there are options for everyone.
How to Apply

To apply for a Residency Position please use the ERAS Matching Service.

Application Requirements:

• USMLE Step 1 with a minimum passing score of 230+
• 3 letters of recommendation (preferably from other academic neurosurgeons)
• Research experience is preferred, but not required

Our deadline for application is September 30th of each year.

We accept International Medical Graduates (IMG) who meet the qualifications listed and who have a valid ECFMG Certificate and have completed USMLE Steps 1-3 and who meet immigration requirements for a J1 Clinical Visa. Previous clinical and research experience in the U.S. is preferred but not required for IMG’s to apply for residency.

To apply for a Fellowship please visit our website and download an application.

For additional questions, please contact our education dept at 305.243.6751 or via email: nrstraining@med.miami.edu