The neurosurgical training program at the University of Miami/Jackson Memorial Medical Center provides an encompassing clinical experience, rich research opportunities and the dedication of its faculty to resident education. As the only university medical center in South Florida, we directly serve a three county referral area of 4.5 million people. We also receive complicated neurosurgical referrals from around the U.S., Latin America, the Caribbean and Europe. Our greatest source of pride is the quality and the contributions of our residents and fellows to our neurosurgical team.

**PROGRAM OVERVIEW**

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**SPINE SERVICE**

Dr. Barth Green, Dr. Allan Levi, Dr. James Guest, Dr. Steven Vanni and Dr. Michael Wang focus on spinal surgery. These dedicated neurospine surgeons have one of the busiest spinal surgery practices in the country. Active basic science laboratories looking at spinal cord regeneration are located at The Miami Project to Cure Paralysis. The scope of practice ranges from minimally invasive spine surgery, spinal cord tumors to complex spinal instrumentation. As President of The Miami Project to Cure Paralysis, Dr. Green directs its applied research programs, including clinical neurophysiology, bioengineering and reproductive physiology. Dr. Levi maintains a very busy peripheral nerve practice, which includes a high number of complex brachial plexus surgeries.

**CRANIAL SERVICE**

Dr. Roberto Heros joined the department in 1995 as Co-Chairman and Director of the Residency Training Program. He has been very active in national leadership positions as past president of both the American Association of Neurological Surgeons (AANS) and the Academy of Neurological Surgeons. Dr. Heros is the current president of the World Congress of Neurological Surgery and, in 2006, was the Congress of Neurological Surgeons’ Honored Guest. In recognition for his lifetime dedication and passionate commitment to mentoring and teaching residents, Dr. Heros was awarded the Accreditation Council for Graduate Medical Education’s (ACGME’s), Parker J. Palmer Courage to Teach Award, 2006. Clinically, he concentrates in cerebrovascular and skull-base surgery. Dr. Jacques Morcos is highly skilled in both complex cerebrovascular surgery and the management of skull-base tumors. He directs the microsurgical and skull base laboratory. Dr. Ali Aziz-Sultan is the Director of Endovascular Neurosurgery and performs all interventional and diagnostic neuroangiography, as well as open microvascular surgery. Dr. Ronald Benveniste joins us this year after his fellowship in surgical Neuro-Oncology at MD Anderson Center in Houston. He has been appointed Chief of Neurosurgery at the VA Medical Center and, in addition, will lead our Neuro-Oncology program at the UMHC-Sylvester and Jackson Memorial.
Dr. Howard Landy directs programs in neuro-oncology and Gamma Knife surgery. Active clinical and laboratory studies relate to radiobiology of gliomas and convection chemotherapy. Many of our surgeons, including Drs. Morcos, Jagid and Ragheb are skilled in Gamma Knife and Cyber Knife to provide comprehensive care in the treatment of tumors and vascular malformations.

Dr. M. Ross Bullock directs the Neurotrauma Service at Ryder Trauma Center in collaboration with the Co-Director Dr. Jonathan Jagid. They are actively involved in management of our 24-bed neurosurgical intensive care unit and perform both basic science and clinical research in hypothermia and the metabolic effects of traumatic brain injury.

Dr. Jonathan Jagid directs the functional program, including deep-brain stimulation and stereotactic surgery. He has an active clinical and research program in Parkinson's disease and other movement disorders. Drs. Ragheb and Bhatia maintain an adult epilepsy practice in addition to their pediatric practice.

Dr. Stephen Olvey, Director of the Neurosurgical ICU, is a recognized expert in critical care management of neurological injuries. He is internationally respected as a pioneer in motor-injury sports medicine. Dr. Landy is also actively involved in neurointensive care.
The Miami Project is a comprehensive scientific research program focused on spinal cord injury. The cutting edge research conducted at the Lois Pope Life Center encompasses every aspect of neuroscience, from molecular and cellular biology to tissue transplantation and regeneration to physiology and functional studies which are then translated into the clinical arena. A multidisciplinary team of basic scientists and clinicians work together in a unique, integrated environment under the auspices of the Department of Neurological Surgery. Our Program presently ranks third in the nation in NIH funding. An internationally recognized neuroscientist and Vice-Chairman for Research, Dr. Dalton Dietrich serves as a liaison between the clinical and research faculty of the Department, assisting each resident in planning and implementing their 1 or 2 year research program. The Miami Project is a center of neuroscience excellence and an important resource for the neurosurgical resident.
The neurosurgical training program began in 1959 as a division of the Department of Surgery and became an autonomous Department in 1971. The adult neurosurgical service at Jackson Memorial Hospital is situated on the seventh, eighth and ninth floors of the West Wing of the hospital. The seventh and ninth floors are each 36-bed patient care units. The eighth floor is the 24-bed Neurosurgical Intensive Care Unit, which provides all aspects of critical care management. The NSICU directed by Dr. Olvey, provides the residents with in-depth training in all aspects of critical care medicine. The five new dedicated neurosurgical operating rooms provide support for all modern neurosurgical techniques. The Ryder Trauma Center contains separate dedicated operating rooms used for acute head injuries. The Gamma Knife Institute is a state-of-the-art stereotactic radiosurgery facility and an affiliated Cyber Knife facility is located nearby. In addition, a new state-of-the-art micro-surgical skull base laboratory, led by Dr. Morcos, is shared with the Department of Otolaryngology. The neurosurgery laboratory provides residents with the opportunity to practice microsurgical techniques, such as micro-ana-stomosis, on experimental animals.

Jackson Memorial Hospital (JMH) is one of the largest and currently the busiest hospital in the United States. JMH, Veterans Administration Hospital, University of Miami Hospital and Clinics, Sylvester Comprehensive Cancer Center and Bascom Palmer Eye Institute are within a two-block area in the center of the City of Miami. The Miami Children’s Hospital is 20 minutes away and complements the residents pediatric experience.
The Neurosurgical Program’s broad patient population provides residents with exposure to an extraordinary range of neurosurgical diseases and injuries. The clinical faculty represents all major areas of neurosurgical expertise and is highly committed to maintaining a world-class training program. South Florida offers excellent quality of living and a wealth of recreational and cultural opportunities.

In recognition of the academic productivity of our residents in recent years, the Neurosurgical Residency Review Committee (RRC) has allowed our program to increase the number of our incoming residents to three and two on alternating years. Our program is designed to provide preparation for a career in academic neurosurgery. Residents matched in neurosurgery are automatically accepted for a PGY1 position. This is followed by six years of neurosurgical training (PGY-2 through PGY-7). The first two years of neurosurgical training (PGY-2 and PGY-3) consist of 3 month blocks in the following subspecialties: cranial, spine, neurotrauma, pediatrics, neuroendovascular and the VA Hospital.

The PGY-4 and PGY-5 years consist of at least one year of supervised research with the aid of a faculty mentor. In the fifth year, the resident has the option of continuing in an approved research project or achieving special clinical competence through a one-year in-residency “fellowship” in an area of the resident’s choosing such as spine, neuroendovascular or neurotrauma. The PGY-6 year is spent receiving intensive surgical training on the Spine and Cranial services. The PGY-7 year is the chief residency at Jackson. The Chief Residents organize the operating schedule and spend six months as Chief of the Cranial Surgery Service and six months as Chief of the Spinal Surgery Service.

**Residency Rotations**

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**Board Examination Requirements**

All Residents are required to take the American Board of Neurological Surgery written examination annually. Satisfactory progress must be shown before the resident advances to the next level of training. The examination must be passed for credit prior to the chief residency. We also hold “mock” oral boards to help all our residents prepare for when they take their examinations.
Neurological Surgery Grand Rounds are held weekly and include topics in the fields of neurology, neuro-oncology, epilepsy, neuro-ophthalmology, neuroradiology, neuro-otology, neuro-endocrinology and neuropathology. Journal Club and Morbidity & Mortality Conference are incorporated into the Grand Rounds schedule. We also invite nationally and internationally distinguished visiting professors to speak in their specific area of expertise. Dr. Heros conducts a service report and teaching conference three times a week and Dr. Levi runs a weekly joint spine conference with the orthopedic spine service. Chief Residents hold a weekly resident conference aimed at preparation for the written boards.

**HUBERT ROSOMOFF RESEARCH DAY**

This annual event includes presentations of original research by the residents, fellows, and clinical faculty, as well as visiting professors. The day is named in honor of the long career in clinical research of Dr. Rosomoff, the department’s retired Chairman Emeritus.

**NEUROSURGERY OLYMPICS**

Every year we participate in Neurosurgery “Olympic Events”, which are organized for all our residents, fellows and clinical faculty. We compete with the University of Florida for state-bragging rights. The event promotes fitness, fun and comradery.
FELLOWSHIP PROGRAMS IN NEUROLOGICAL SURGERY

**SPINE SURGERY**

Fellowship positions are available which provide extensive exposure to all facets of modern spinal surgery. Experience is gained in trauma, degenerative and vascular disease, and tumor surgery utilizing state-of-the-art techniques in instrumentation, microsurgery, and neurophysiologic monitoring. Fellows work primarily with Drs. Green, Levi, and Vanni, they also have regular interaction with the rest of the neurosurgical faculty. Extensive research opportunities are available.

**NEUROENDOVASCULAR**

The goal of the fellowship is to train Neurosurgeons, Neurologists and Radiologists to become fully trained in Neurointerventional procedures over a period of 2 years. Approximately 900 cases per year are performed at JMH out of which, 350 are major interventional procedures. The fellow works mainly with Dr. Aziz-Sultan and also has regular interaction with the rest of the Neurosurgery, Neurology and Radiology staff. Extensive research opportunities are available.

**NEUROSURGICAL INTENSIVE CARE UNIT**

The 24-bed Neurological Intensive Care Unit cares for the entire spectrum of neurosurgical disease and has a staff of intensivists directing patient management. Positions and rotations may be available to physicians during or after neurosurgical residency training. Extensive research opportunities are available.

**PEDIATRIC NEUROSURGERY FELLOWSHIP**

This is a one year clinical fellowship working with the joint Division of Pediatric Neurosurgery at Miami Children's Hospital and Jackson Memorial Hospital, which is available only to neurosurgeons that have completed general neurosurgery training. The fellow will work with the five full-time pediatric neurosurgery faculty on over 700 hundred pediatric surgical cases annually. There are opportunities for basic as well as clinical research during the fellowship as well as an extensive conference schedule.

**CEREBROVASCULAR & SKULL BASE SURGERY**

This fellowship program provides exposure to an aggressive surgical service, treating the entire gamut of cerebrovascular disease and a wide spectrum of skull base tumors. The fellow works mainly with Drs. Heros and Morcos but also has regular interaction with the rest of the attending staff. The skull base anatomy and the microsurgical laboratories are available to the fellows, these clinical research initiatives are encouraged.
NEUROSURGICAL FACULTY

Full-time Clinical Faculty
Barth A. Green, M.D.
Roberto C. Heros, M.D.
Ali Aziz-Sultan, M.D.
Ron Benveniste, M.D.
Sanjiv Bhatia, M.D.
M. Ross Bullock, M.D., Ph.D.
Jonathan R. Jagid, M.D.
James D. Guest, M.D., Ph.D.
Howard J. Landy, M.D.
Allan D. Levi, M.D., Ph.D.
Jacques J. Morcos, M.D.
Glenn Morrison, M.D.
Stephen E. Olvey, M.D.
John Ragheb, M.D.
David Sandberg, M.D.
Steven Vanni, D.O., D.C.
Michael Wang, M.D., FACS
Barbara Grimpe, Ph.D.
James D. Guest, M.D., Ph.D.
Ian D. Hentall, Ph.D.
Vance Lemmon, Ph.D.
Daniel J. Liebl, Ph.D.
Alberto Martinez-Arizala, M.D.
Mark S. Nash, Ph.D.
Brian R. Noga, Ph.D.
Damien D. Pearse, Ph.D.
Jacqueline Sagen, Ph.D.
Christine K. Thomas, Ph.D.
Pantelis Tsoulfas, M.D.
Eva Widerström-Noga, D.D.S., Ph.D.
Patrick M. Wood, Ph.D.

Full-time Research Faculty
W. Dalton Dietrich, Ph.D.
John R. Bethea, Ph.D.
John Bixby, Ph.D.
Nancy L. Brackett, Ph.D., Hcld.
Helen M. Bramlett, Ph.D.
Mary Bartlett Bunge, Ph.D.
Diana Cardenas, M.D., M.H.A.
Edelle C. Field-Fote, Ph.D., P.T.

For application requirements, please contact Ingrid Menendez, Residency & Education Manager via Tel (305) 243-6751 Fax (305) 243-3180 or email NRStraining@med.miami.edu

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