

University of Florida Movement Disorders Center

Medicine, Surgery and Research for Parkinson's Disease, Tremor and Dystonia



SHANDS
Neurological Center
at the University of Florida

Our Mission:

To provide the highest level of medical and surgical care to patients with Parkinson's disease, tremor, dystonia, and other movement disorders

To perform research that will lead to better treatments, and ultimately cures, for Parkinson's disease and other movement disorders



Michael S. Okun, MD, *Co-Director*

Michael S. Okun, MD, University of Florida neurologist and movement disorders expert, completed two fellowships, one in movement disorders, and a second in microelectrode recording and surgical treatments of movement disorders. As an experienced researcher and bedside movement disorders physician, his goal is to provide the best care for patients while at the same time ensuring that the University of Florida is on the cutting edge of research and new therapies.

Recruited from Emory University, one of the world's foremost centers in surgical therapy for movement disorders, Dr. Okun brings to the University of Florida a real strength in the surgical treatment of Parkinson's disease, dystonia, tremor and other movement disorders.



Kelly D. Foote, MD, *Co-Director*

Kelly D. Foote, MD, University of Florida neurosurgeon and movement disorders expert, has been fellowship trained in stereotactic and functional neurosurgery. In addition to a one-year fellowship in stereotactic neurosurgery and radiosurgery under William A. Friedman, MD, at the University of Florida, Dr. Foote trained in movement disorder surgery at the Universite' de Grenoble in Grenoble, France, as well as at Emory University, two of the pioneering institutions for movement disorders surgery. By combining his expertise in image-guided surgery with Dr. Okun's expertise in microelectrode recording and brain mapping, they have created one of the most technologically advanced operating rooms in the country.

At the Center, patients are treated medically and/or surgically for all forms of movement disorder. Research is conducted for:

- Parkinson's disease
- Atypical Parkinsonism (PSP, Lewy body disease, corticobasal degeneration, MSA, trauma, other)
- Tremor (essential, outflow, trauma, other)
- Dystonia (primary, secondary, tardive)
- Chorea (Huntington's disease, other)
- Other neurodegenerative disorders with basal ganglia involvement
- Tic (Tourette's syndrome, other)
- Myoclonus
- Ataxias

The Growing Need for Advanced Studies and Care

Diseases like Parkinson's that occur more commonly with age will present a continuing and increasing challenge for movement disorders experts

Prevalence of Movement Disorders			
Disorder	per 100,000	USA (281,421,906)	Florida (15,982,378)
Essential tremor	306 – 415	861,000 – 1,168,000	49,000 – 66,000
Parkinson's disease	18 – 187	51,000 – 526,000	3,000 – 30,000
Tourette's syndrome	30 – 160	84,000 – 450,000	5,000 – 26,000
Focal dystonia	30	84,000	5,000
Generalized dystonia	3.4	10,000	544
Huntington's disease	5 – 10	14,000 – 28,000	800 – 1,600
Wilson's disease	3	8,000	480
Progressive supranuclear palsy	1.4	4,000	224

Since 1990, % change in USA population >65 years old: 12.4% Since 1990, % change in Florida population >65 years old: 17.6% These numbers are an underestimate in Florida, where the population is much older than the national average.

Clinical Services Offered at the Center

- Optimization of medication treatments
- Deep brain stimulation
- Ablative therapy (pallidotomy, thalamotomy, subthalamotomy)
- Botulinum toxin treatments
- Speech and language disorder evaluation and treatment
- Gait training, physical therapy
- Treatment of associated anxiety, depression and mood disorders

Current Research



- **Deep Brain Stimulation Microelectrode Recording**

The Movement Disorders Center offers state-of-the-art deep brain stimulation and ablative therapy for Parkinson's disease, dystonia, tremor and other movement disorders. The combination of a locally developed image guidance system, multiple pass microelectrode recording and advanced brain mapping techniques sets UF apart from many other institutions performing these procedures. In addition, the program has assembled a complete multi disciplinary movement disorders team to ensure the highest quality of care.

- **GDNF, Viral Vectors and Genetics**

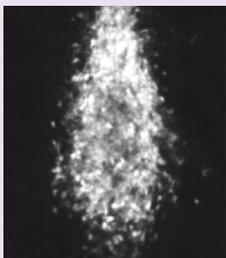
Ronald Mandel, PhD, and his team are actively investigating both direct intrastriatal transmitter replacement (L-dopa delivery) and neurotrophic support strategies (GDNF delivery) in the unilateral 6-OHDA-lesion model of Parkinson's disease using recombinant adeno-associated viral vectors (rAAV). The laboratory plans to begin analogous studies in primates to obtain the data necessary to support a Phase I clinical trial using rAAV in Parkinson's disease. The laboratory also has studies underway to develop regulated vectors to express GDNF.



Other major interests in the laboratory are using rAAV to study the etiology of Parkinson's disease, using rAAV to transfer ribozymes to the striatum of transgenic mice expressing a mutant form of Huntington's disease to determine if knocking down gene expression will block Huntington's disease-like pathology and other potential projects involving gene transfer in Huntington's disease models concerning the trophic factors, brain derived neurotrophic factor (BDNF) and ciliary neurotrophic factor (CNTF).

- **Stem Cell Research**

The major research goal of Dennis Steindler, PhD, and his team is to see the use of stem cell therapy become a major treatment for debilitating neurological diseases. There is widespread interest in the use of stem cells for cell replacement therapies in human neurological disease. However, we have only begun to appreciate the cell and molecular biology of these cells, which hold great promise for transplantation or other therapeutics relying on the potential use of our own persistent stem/progenitor cell population in autologous transplant paradigms for diseases such as Parkinson's. This laboratory is currently developing stem cells for the potential treatment of Parkinson's.



• Brain Bank

The Human Brain Tissue Bank at Evelyn F. & William L. McKnight Brain Institute of the University of Florida aides studies of traumatic brain and spinal cord injury, as well as Parkinson's and other neurodegenerative diseases and movement disorders. This collaborative effort, which is led by Thomas Eskin, MD, will provide human blood and tissue for research at the cellular and molecular levels, as well as collaborative genetic research. Such studies should help explain the destructive processes in a variety of human brain diseases.

Other Active Research Initiatives

- *Improvements in MRI and imaging*
- *Improvements in surgical techniques*
- *Lesion surgery*
- *Neurophysiology*
- *Surgical and medical clinical trials*
- *Gait and kinematics*
- *Rehabilitation*
- *Speech, swallowing, language disorders*
- *Cognitive and mood disorders*
- *Clinical trials – new therapies*

To ensure our success in both clinical and research endeavors, we have assembled a top-notch team of experienced professionals in the fields of Parkinson's disease and movement disorders.

Neurology

Michael Okun, MD
Edward Valenstein, MD
Robert Watson, MD
Kenneth Heilman, MD
Steve Eisenschenk, MD
Janet Romrell, PA
Sarah Munson, BS

Neurosurgery

Kelly Foote, MD
William Friedman, MD
Frank Bova, PhD
Pam Martin, RN

Neuroscience

Ron Mandel, PhD
Dennis Steindler, PhD
William Luttge, PhD
Douglas Anderson, PhD

Neuropsychiatry/Psychiatry

Greg Crucian, PhD
Dylan Wint, PhD
Wayne Goodman, MD
Tanya Murphy, MD

Gait and Rehabilitation

Pam Duncan, PhD
Leslie Gonzalez-Rothi, PhD
Bruce Crosson, PhD

Speech, Voice and Language

John Rosenbek, PhD
Christina Sapienza, PhD

Neuroanaesthesia

Steven Robicsek, MD, PhD
Michael E. Mahla, MD

Web Page

Sue Legg
Lynn Romrell, MD
Richard Rathe, MD

Bio-information Systems

Su-Shing Chen, PhD

Brain/Blood Bank

Thomas Eskin, MD
Anthony Yachnis, MD

Jacksonville Partnership

Alan Berger, MD
Zigao Huang, MD

The University of Florida Movement Disorders Center is committed to facilitating access by patients and physicians to our many services.

Consultations with our specialists can be scheduled both for possible treatment and for second opinions. We coordinate with referring physicians, providing full reports on patient progress after treatment and after each follow-up examination.

Our dedicated staff will help patients and their families find affordable, convenient accommodations in the Gainesville area during treatment and for subsequent visits. And, as always, we are available to answer your questions and assist you in any way possible.

For more information, call 352.392.3491 to schedule a consultation, or to make a patient appointment, call 352.265.8408.

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