Division of Medicine

Department of Neurology
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Introduction

Established in 1986, the Department of Neurology at Cleveland Clinic Florida brings the tradition and care of the well-known Cleveland Clinic in Ohio. As the only Neurology service of its kind in Broward, West Palm and Collier counties, the department provides a multidisciplinary approach to the neurosciences, continuing neurological education and training of future neurologist and scientist. When education, training and state-of-the-art care meet the results are phenomenal for patients and society.

We are pleased to provide our referring physicians and patients alike a quick overview of what services we provide and how we measure up to others.

The Department of Neurology provides consultation in all areas of neurology but has exceeding expertise in stroke, neuromuscular diseases, headache medicine, movement disorders, epilepsy, and the dementias. Together with the Spine Institute, the neurology department actively cares, and diagnoses patients with degenerative spine disorders. With the Department of Neurosurgery innovative therapies such as Deep Brain Stimulation are offered. Brain tumors are address in a multidisciplinary fashion along with the Oncology, Radiotherapy and Neurosurgical departments.

We believe reporting outcomes serves the needs of the referring physician, patients, donors and friends of the Clinic in making various decisions. We are pleased to share our data and hope you will find it useful and informative.

Nestor Galvez-Jimenez, M.D., M.Sc., M.H.S.A., F.A.C.P., Chairman, Department of Neurology
Cleveland Clinic’s Stroke Program only one of 12 such programs in the United States to receive the 2007 American Heart Association Get with the Guidelines-Stroke Annual Performance Achievement Award recognizing Cleveland Clinic’s commitment and success in implementing higher standard of stroke care, according to nationally accepted standards and recommendations.

Cleveland Clinic has developed a comprehensive system for rapid diagnosis and treatment of stroke patients admitted to the emergency department. This includes being equipped 24 hours a day, seven days a week to provide brain imaging scans, having neurologists available to conduct patient evaluations, and using clot-busting medications when appropriate.

- According to the World Health Organization (WHO) stroke is the leading cause of neurological disability and death in the world. Many are due to embolic events from a diseased heart or arteries.
- During the period between January and December 2006, all such patients, treated at the Neurology Service of the Cleveland Clinic Hospital were discharged on preventative anticoagulation as required under the current guidelines of the American Heart and Stroke Association.

Percent of ischemic stroke or TIA patients with atrial fibrillation who are discharged on anticoagulation therapy (warfarin/Coumadin or heparin/heparinoids), unless an absolute or relative contraindication exists Time Period: Jan 2006 - Dec 2006; Site: Cleveland Clinic Florida (13811)

Percent of acute ischemic stroke patients who arrive at the ED at CCF within 120 minutes (2 hours) of onset of stroke symptoms who receive IV t-PA within 180 minutes (3 hours) of onset of stroke symptoms.
When compared to hospitals around the country, we are above the expected standard nationwide in the treatment of acute ischemic stroke and use of blood clothing “busting” or thrombolytic agents.

When compared to all Florida hospitals, we were above the norm in 2006 on prevention for blood clot formation in the legs.

Treatment and prevention of abnormal cholesterol markers upon discharge continued to increase and were above the norm when compared to all Florida hospitals during 2006.
 Neuromuscular Diseases

The oldest of all programs within the department of neurology, the neuromuscular diseases program runs perhaps one of the busiest electrodiagnostic laboratories in Broward and West Palm Beach counties. In 2006 a total of 2493 studies were performed of which 1476 were specifically requested for the diagnosis or evaluation of patients suffering with neuromuscular diseases. All electrodiagnosticians are board certified or eligible in the field.

- For the calendar year 2006, the stroke service treated:
  - Stroke/Transient ischemic attacks (TIA): 124.
  - Intracerebral hemorrhage (subarachnoid): 16.
  - The stroke service performed above the national and state norms in all recognized areas of prevention and acute treatment of ischemic stroke.

Percent of ischemic stroke or TIA patients with LDL>100 mg/dL OR on cholesterol reducer prior to admission who are discharged on cholesterol-reducing drugs. Time Period: Q1 2006 - Q4 2006; Site: Cleveland Clinic Florida (13811)

The number of electrodiagnostic studies continues to trend upwards, reaching nearly 1476 in 2006. (EDX: EMG/NCS, autonomic testing, pudendal nerve studies and SSEP (somatosensory evoked responses).
In 2006 over a thousand EMG/NCS were performed, 53 autonomic studies, 251 pudendal nerve testing and 167 SSEP evaluations

Neurodiagnostic Laboratory

The neurodiagnostic laboratory provides comprehensive state of the art neurodiagnostic evaluation for patients with a variety of neurological disorders, such as epilepsy, stroke, neuromuscular disorders, motor control, imbalance and vertigo, sensory complaints and multiple sclerosis.

Those performed at out laboratory include:

- Electroencephalography (EEG)
- Ambulatory EEG
- Visual Evoked Responses
- Somatosensory Evoked Responses
- Brainstem Evoked Responses
- Electrocochleography
- Transcranial Doppler Ultrasonography
- Autonomic Testing
- EMG/NCS (electromyography/nerve conduction studies)

A sample of the most common diagnosis seen at the neuromuscular program:

- **neuromuscular junction disorders** such as myasthenia gravis, Lambert Eaton myasthenic syndrome;
- **motor neuron diseases** such as ALS, primary lateral sclerosis, post polio syndrome;
- **peripheral neuropathies and myopathies** such as diabetic, toxic, inflammatory and other metabolic neuropathies;
- **genetic disorders** such as Charcot Marie Tooth disease, Dejerine Sottas and other HSM neuropathies.
- **Compressive neuropathies** such as carpal tunnel syndrome; ulnar neuropathies;

**degenerative spine related conditions** such as radiculopathies are commonly encountered in the laboratory.
Movement Disorders Program

The Movement Disorders Program, established in 1996, is the only program of its type in Broward, West Palm Beach and Collier Counties offering a multidisciplinary approach to the diagnosis and treatment of patients with all types of conditions affecting motor control.

A total of 1667 consultations for the evaluation and diagnosis of patients with abnormal motor control were performed in 2006. Most common conditions treated were:

- Parkinson’s disease;
- Secondary forms of Parkinsonism such as PSP, OPCA, MSA;
- Mitochondrial cytopathies;
- Metabolic syndromes resulting in abnormal motor control such as Wilson’s disease;
- Degenerative hereditary disorders such as Huntington disease.
- Cerebellar ataxias,
- Choreas,
- Tics, Tourette syndrome,
- Restless Legs,
- Tremor
- Gait disorders and Falls and other associated condition were continuously assessed at the program during 2006.
• **Speech disturbances (dystonic/spastic)**

One of the largest **dystonia clinic with botulinum toxin therapy and baclofen pumps** in Broward and West Palm Beach is housed at the Movement Disorders Program of the Cleveland Clinic. Evaluation for both research studies on this condition, investigator initiated studies and patients undergoing deep brain stimulation for dystonia have all been performed at our center.

![Bar chart showing number of patients injected over 4 years](chart.png)

Over 1034 patients-injections have been administered over a 4-year period and the number of patients continues to grow.

• We performed our first **Deep Brain Stimulation Surgery** in 1998, then one of the few centers offering the procedure in the state of Florida.

• Since then this type of surgery has been performed in a very selected groups of patients suffering with Parkinson’s disease, tremor and Dystonia.

• Expert evaluation for **programming** of patient with deep brain stimulators is offered along with patients with baclofen pumps for a variety of conditions such as cerebral palsy, dystonia, primary lateral sclerosis, post stroke spasticity and others.

• An active academic program over 68 scientific **publications, book chapters and books** have been written by the movement disorders staff.

• A **fellowship program** for the training of neurologist wishing to become expert in the field have been in placed since 1999.
The numbers of electroencephalograms continued to steadily increase over four years, especially the numbers of ambulatory studies over the same time period.
Innovation

In education, research and patient care.

- **First** report on the benefits of aspirin in combination with dipyridamole after 30 days in patients presenting with acute ischemic stroke.
- **In 1987 among the first centers** offering deep brain stimulation for patients with Parkinson’s disease, tremor and dystonia in the state of Florida.
- **First** observational and therapeutic studies on the relationship of cervical dystonia and chronic daily headaches.
- **First** report on the benefits of botulinum toxin therapy for the treatment of headaches associated with cervical dystonia.
- **First** depiction on the benefits of topiramate for the treatment of essential tremor.
- **First** account on the benefits of zonizamide for the treatment of essential tremor.
- **First** comparison study on the benefits of pramipexole vs. ropinirole for the treatment of restless legs syndrome.
- **First** neurology residency training program north of Miami-Dade but south of Gainesville, Florida with full accreditation from the American Council of Graduate Medical Education.
- **First** in offering education in the subspecialties of Cerebrovascular diseases; Neuromuscular disorders and Electrodiagnostic Medicine; and Movement Disorders north of Miami-Dade but south of Gainesville, Florida.
- The **only** neurodiagnostic laboratory dedicated for the assessment of patients with colorectal and genitourinary systems disorders as it relates to the peripheral and central nervous system.
- The **only** autonomic nervous system laboratory in Broward and West Palm Beach counties.
- **Among the first reports** on the use of electrodiagnostic studies in the diagnosis of severe constipation.

Implantable deep brain electrodes (DBS) in a patient with familial tremors.
Publications

BOOKS:


PEER REVIEWED PUBLICATIONS:


BOOK CHAPTERS


Galvez-Jimenez N. Psychogenic Tremor. In Movement Disorders Neurologic Principles and Practice. Ray Watts,


Excellence

We strive to provide the best care possible one patient at a time. We ask our patients about their experience and satisfaction with the care received by our staff. Among 260 patients treated at our department, 80% reported very good to excellent care provided by the staff. In addition, over 90% will recommend our providers to others.

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