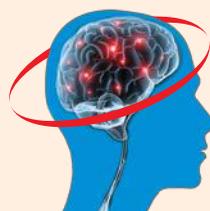


*Pushing  
the boundaries  
for treatment*



*He was just 47 when police officer, Mr. Krishnan, was diagnosed with Parkinson's disease. 'A progressive neurodegenerative disease without a cure,' said the neurologist. Mr. Krishnan was convinced that the life he knew and loved was effectively kaput! Lack of control over movement can ring the death knell for a job as a police officer. Five years later, he had lost his job and his independence... until he came looking for answers at MIOT's Neurogenic Movement Disorder Clinic where he found a ray of hope. After a comprehensive investigation by the Neurosciences team, he was taken up for Deep Brain Stimulation, an innovative surgical treatment for advanced Parkinsonism. Three months later Mr. Krishnan was back at the job he loved.*

## As life turns up side down

Mr. Krishnan's family was one of the lucky ones among the growing number of families who watch in complete shock as a loved one falls prey to dreaded neurodegenerative movement disorders like Parkinson's disease. You watch, powerless, as they withdraw behind an invisible curtain, shrinking from public life. Very often they are seniors in your family, decision makers and authority figures, but movement disorders can completely erase their confidence and control.



Today almost 1.5% of the population suffers from some neurological motor disorder such as Parkinson's disease, dystonia, tremors, spasms, torticollis, stiffness syndromes etc., all of which are **relentlessly progressive disorders**. As a concerned family member, you could be left wondering whether the latest advances in treatment have eluded you. Are the latest innovative treatments available in India? **If so, have you explored every option?**

The answer lies at MIOT International's dedicated **Neurogenic Movement Disorders Clinic**, conceptualized to help you explore the latest advances in the treatment of neurodegenerative disorders.

## What are Neurogenic Movement Disorders?

Movement disorders are abnormalities of **gait** and **movement**. Typically, they imply either uncontrollable excessive movement such as, tremors and tics, or lack of movement, such as, stiffness and rigidity, which slowly change your independent life to one of complete dependence.



## What causes Movement Disorders?

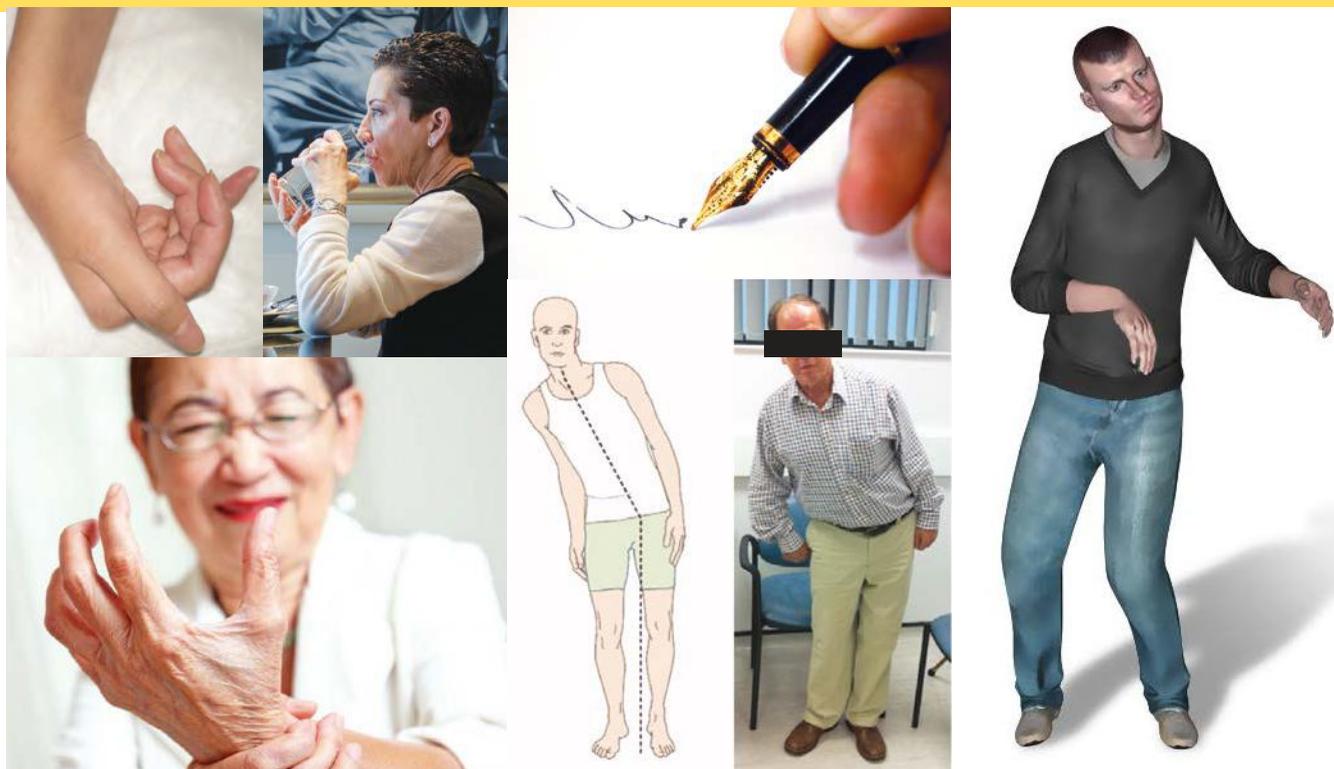
It's all about communication. If there is perfect communication between your brain and your body, you get smooth fluid movement and balance. We step forward, we step back, we lift a spoonful of food straight to our lips, all with effortless ease... until... **messages from and to the brain seem to get inexplicably blocked**. This is due to degeneration in any part of the complex pathway between brain and body, leading to these dreaded movement disorders.



Usually the source of the disorder can be traced to either the basal ganglia in the cerebrum or the base of the brain, the cerebellum. In both cases our ability to walk, to maintain normal posture and balance are seriously affected.

## Do you have someone at home suffering from a Movement Disorder? Here's a checklist:

- Hand tremors, slowness of activities, tendency to fall easily due to impaired balance and postural instability: **Parkinson's disease**.
- Abnormal twisting of body parts due to muscle contractions e.g. dragging foot, involuntary pulling of the neck, blinking: **Dystonia**



● Abnormal twisting of a limb following stroke:  
**Post Stroke Dystonia**

● Shakiness of upper limb, voice and head nodding:  
**Tremors.**

● Abnormal, intermittent, involuntary contraction of one half of the face, including the eye and the angle of the mouth: **Hemifacial Spasm**

● Abnormal neck posture due to contraction of the neck muscle resulting in head twist or tilt to one angle:  
**Torticollis**

● Painful spasm while writing: **Writer's Cramp**

● Unwanted excessive movements of the body which look as though that part of the body is dancing on its own: **Chorea, Ballismus, Athetosis, Tics**

● Unsteadiness of gait, walking as though drunk, and excessive trembling of hands while taking food to the mouth: **Ataxia**

● Abnormal stiffness of the limbs, walking like a robot:  
**Stiffness syndrome**

● Constant painful and restless desire to move the limbs while in bed, disturbing the entire night's sleep:  
**Restless Legs syndrome**

## Hope Lives Here: The MIOT Movement Disorder Clinic

Fifty years ago, neurogenic movement disorders were considered essentially untreatable. No longer is this the case. Today, constant research has redefined and continues to redefine the possibilities for treatment.

## We make the Latest Research Accessible

When you come to MIOT, you can rest assured that you are in safe and expert hands. Taking the latest research on board, we have implemented the unique **multidisciplinary Movement Disorders Clinic**. Here a dedicated and experienced Neurosciences team consisting of neurologists, neurosurgeons, neuropsychologists, physiotherapists, occupational therapists & speech therapists pool their individual expertise and incorporate the latest treatments on a realtime basis to deal with the most difficult cases.

## One size does not fit all at MMDC

We have been successful with our treatments since they have been tailored to meet each patient's unique needs. Every patient is carefully screened by an experienced team and outcomes are evaluated realistically, before drawing up the most effective treatment plan. The plans are then shared with family



members with complete transparency before treatment begins. Family members play a vital role in ensuring a positive outcome for their loved one.

## Underpinned by the Latest Treatment Advances

At MIOT, no patient is considered beyond improvement. The treatments offered run the whole gamut from the latest surgical techniques and medical therapies available worldwide including injection of botulinum toxin and DBS (Deep Brain Stimulation) a cutting-edge surgical technique offered by very few medical centres in India.

## One-stop Solution

We also offer the latest technology needed for investigating movement disorders, e.g. TRODAT PET, an advanced nuclear scan to diagnose



Parkinson's disease. In addition, dedicated therapists, counselling sessions and inputs from genetic tests contribute to valuable fine tuning of treatments.

## Seamless Experience

Movement disorders take their toll on caregivers. At MIOT, trained staff guide your visits so that it is smooth and tension free right through registration, filling in questionnaires and treatment procedures. We make every effort to ensure you are in compassionate hands.



## Pacemaker for the Brain: Normalcy Revisited

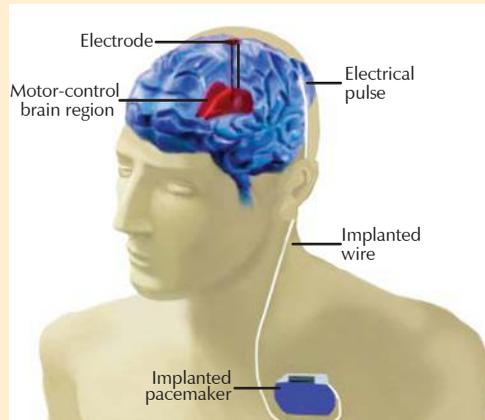
Deep Brain Stimulation is a revolutionary surgical technique which involves implanting electrodes in the brain under local anaesthesia. These electrodes are connected to a generator placed beneath the skin close to the collarbone. The electrodes deliver high frequency stimulation to the brain. The results are almost immediate. Tremors stop or decrease considerably, control over movement improves and patients can even return to their jobs after the procedure. There is an optimum window for patients suffering from Parkinson's disease to benefit from this treatment. Make sure you don't miss it.

## Helping Them Take Charge - at MIOT International

Few centres offer this cutting-edge procedure as it requires experts dedicated to the speciality who can diagnose, plan and offer customised treatment.

At MIOT, patients are first thoroughly assessed to ascertain whether they are candidates for DBS.

- Advanced imaging helps our surgeons map the affected centres and plan the surgery in minute detail.
- Dedicated surgical suites are equipped with cutting-edge stereotactic surgical equipment and manned by experienced personnel.
- Stringent infection-control practices ensure environments that are 99.98% bacteria-free, and protect patients from infection.
- Patients have access to our full-time specialists, rehabilitation therapists, the sophisticated lab & imaging facilities right on campus.





## Integral part of a World Class Organisation

The Neurogenic Movement Disorder Clinic is part of MIOT International, founded 17 years ago. It is a 1000 bed, tertiary care and level 1 trauma centre, offering medical care across 63 specialities. We offer care to patients from over 129 countries through the practice of evidence-based medicine and stringent infection control that match international standards.

## Strong Diagnostic Focus: We Treat the Disease, Not Just Symptoms



and facilities into ongoing treatments, for example, Deep Brain Stimulation for Parkinson's disease. The aim is to minimise or replace invasive procedures wherever possible, reduce medication so as to avoid side effects and enable patients to

lead independent productive lives.

## One-stop care

Services across specialities are easily accessible without leaving the MIOT campus - from doctor's consultations, to advanced scans & lab tests, sophisticated surgery, rehabilitation and counselling. This reduces treatment & recovery time and total costs.

## Our Promise: Collaborative Care

Our handpicked, world-class Neuroscience team practices full-time and exclusively at MIOT. After discussing cases with other specialists on campus, they chart integrated and innovative treatment plans, which are executed and monitored by dedicated care teams. This unique collaborative approach to care has enabled us to achieve outstanding outcomes, even in cases that were turned away elsewhere.

## Compassionate and Safe Patient Centric Care

The patient is our priority-always and without exception. Our stringent protocols and sophisticated infrastructure have lowered infection rates to 0.02% making MIOT the safest hospital in India. In addition, we strive to maintain a compassionate healing environment across the spacious, green MIOT campus.





## MIOT Neurogenic Movement Disorder Clinic

### Treatments & Procedures

- Deep Brain Stimulation for
  - Parkinsons Disease
  - Dystonias
  - Essential tremors
  - Psychiatric disorders:
    - Obsessive compulsive disease
    - Chronic depression
    - Severe alcoholism
  - Severe chronic pain
- Uncontrolled seizures
- Botulinum Toxin Injection
  - Dystonia (abnormal posturing of the body)
  - Hemifacial spasm
  - Torticollis
  - Writer's Cramp
  - Post Stroke Dystonia
- Intrathecal Baclofen Pump for Management of Spasticity
- Multidisciplinary Approach to Parkinson's Disease
  - Medical therapy
  - Physiotherapy and rehabilitation
  - Speech and swallowing exercises



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