



**NEUROMODULATION**  
Health care 



# NEUROMODULATION

Neuromodulation Center

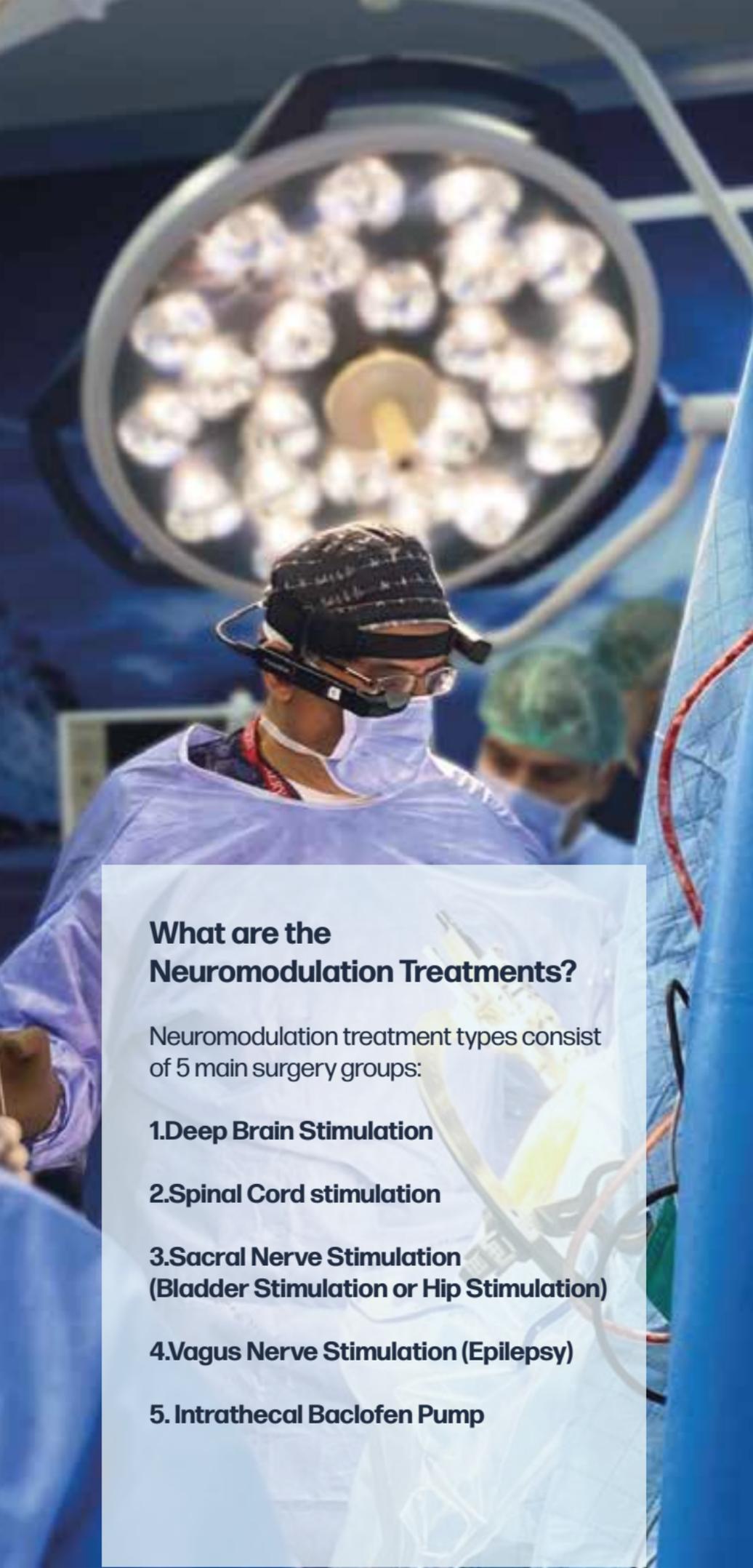


We can define "neuromodulation" as "regulation of the nervous system". The aim of this type of treatment is to regulate the disturbances in the nervous system in any part of the body. We can realize this with electrical and chemical methods.



These surgeries, which are performed in many diseases in our country and in the world, are very effective in the treatment of chronic and progressive diseases, which are called hopeless cases, and provide significant improvement in the comfort of life.





## **What are the Neuromodulation Treatments?**

Neuromodulation treatment types consist of 5 main surgery groups:

- 1. Deep Brain Stimulation**
- 2. Spinal Cord stimulation**
- 3. Sacral Nerve Stimulation (Bladder Stimulation or Hip Stimulation)**
- 4. Vagus Nerve Stimulation (Epilepsy)**
- 5. Intrathecal Baclofen Pump**

**Deep Brain Stimulation**



**Spinal Cord stimulation**



**Sacral Nerve Stimulation  
(Bladder Stimulation or  
Hip Stimulation)**

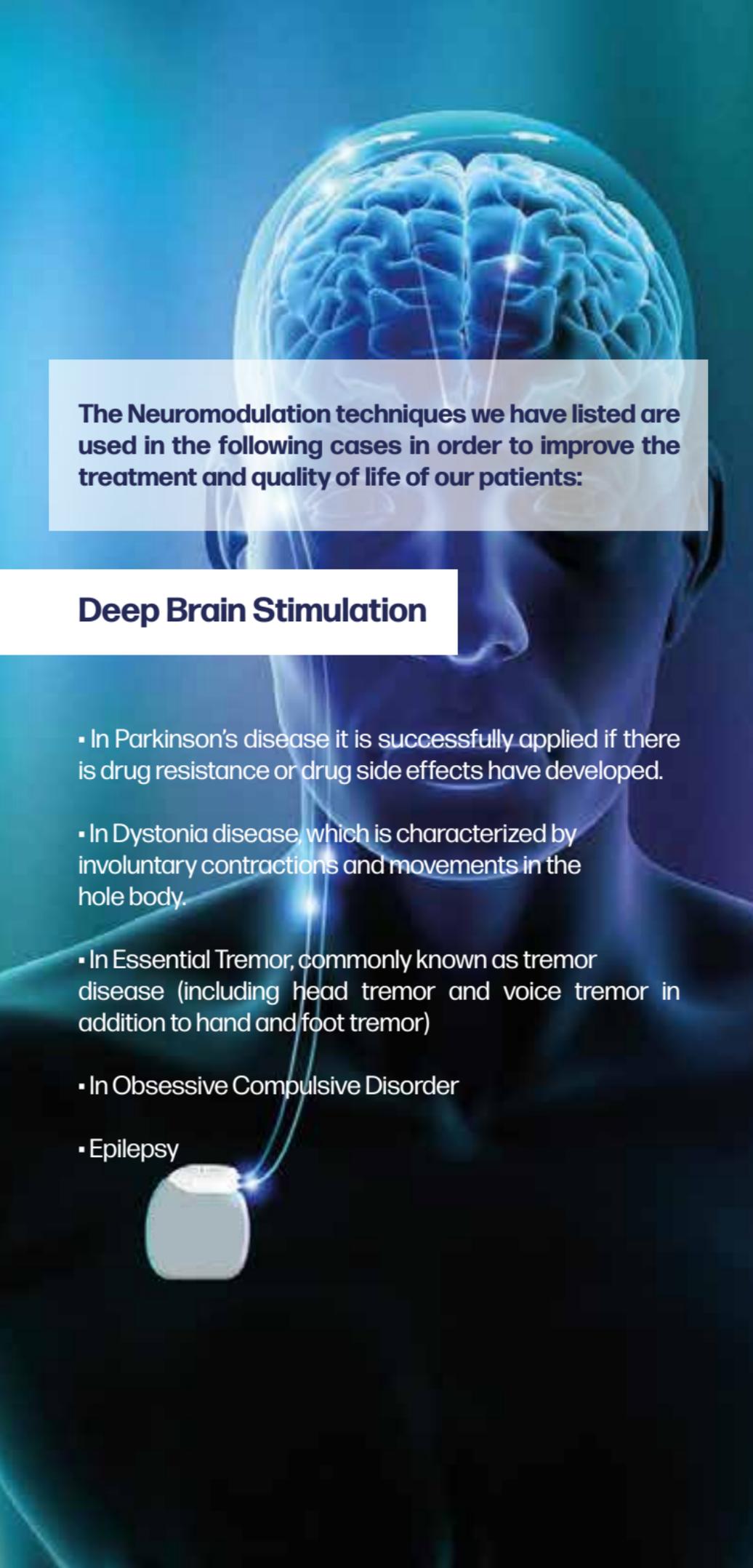


**Vagus Nerve Stimulation  
(Epilepsy)**



**Intrathecal  
Baclofen Pump**





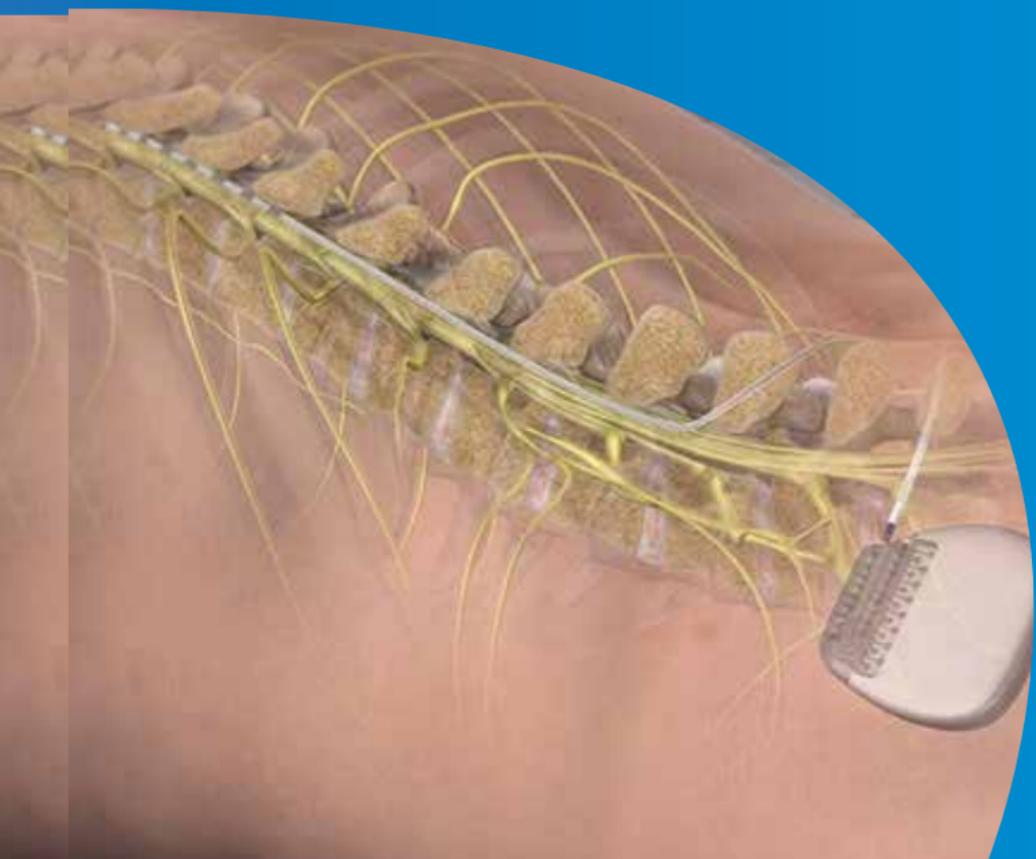
**The Neuromodulation techniques we have listed are used in the following cases in order to improve the treatment and quality of life of our patients:**

## **Deep Brain Stimulation**

- In Parkinson's disease it is successfully applied if there is drug resistance or drug side effects have developed.
- In Dystonia disease, which is characterized by involuntary contractions and movements in the whole body.
- In Essential Tremor, commonly known as tremor disease (including head tremor and voice tremor in addition to hand and foot tremor)
- In Obsessive Compulsive Disorder
- Epilepsy

## Spinal Cord Stimulation

- In the treatment of low back, leg and neck pain that does not go away after lumbar or cervical hernia or similar spine surgeries, referred to as failed back or neck surgery syndrome,
- Peripheral vascular pain, that is, in drug-resistant pain due to wounds or disease caused by vascular disease,
- In drug-resistant pain, known as phantom disease in the language of the type, which is felt at the site of the amputated limb and is physically impossible to be physically impossible.
- In Buerger's disease, especially in the limb (hand, arm, foot, leg) pain seen in smokers and in the pain of the amputated limb,

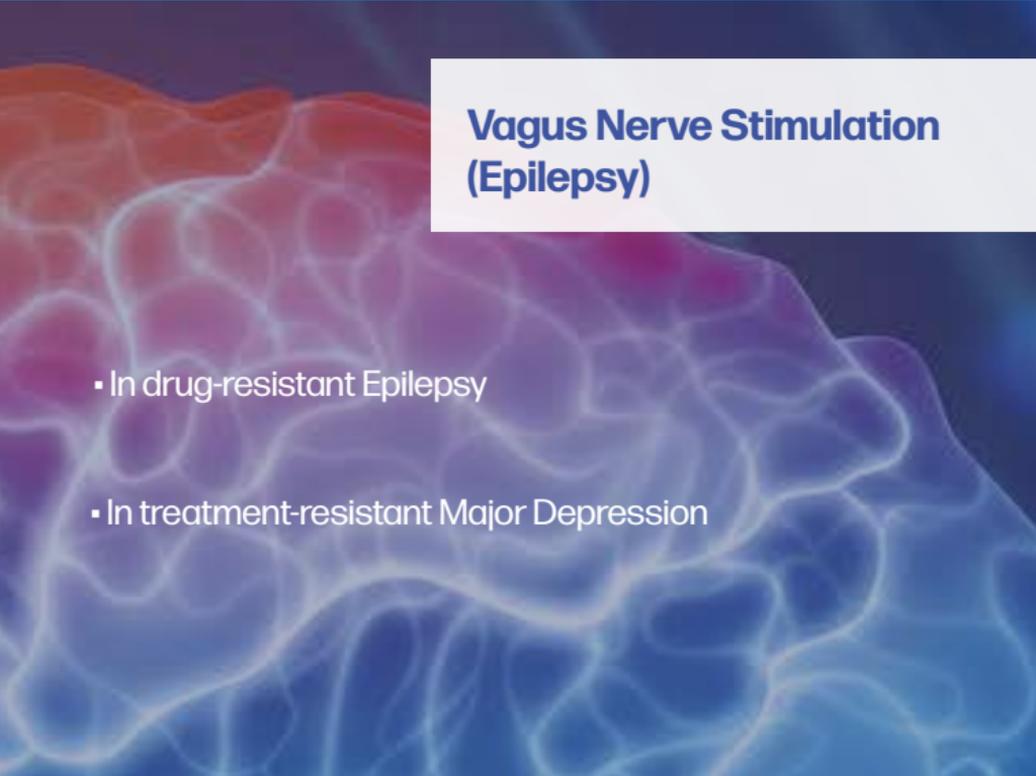




- Diabetic neuropathy, which is called diabetic neuropathy and is caused by diabetes, in findings resistant to drug treatment such as burning, freezing, cold and pain in the feet and hands.
- In drug-resistant pain due to cancer disease,
- In reflex sympathetic dystrophy,
- Treatment of pain in individuals with spinal cord injury.

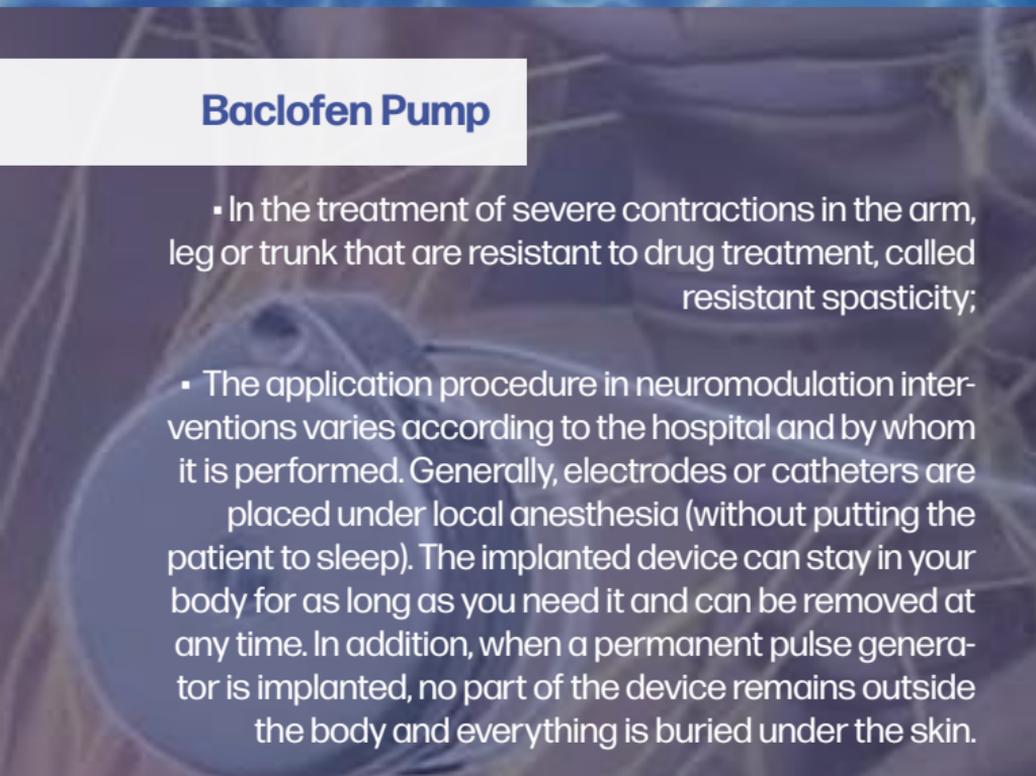
## Sacral Stimulation (Bladder Stimulation or Hip Stimulation)

- Those who are unable to urinate, that is, to perform small ablation
  - Frequent urination
- Those who cannot urinate or hold their urine in the toilet when they urinate
  - In those who have missed the large ablation
    - People with chronic constipation
    - Neurogenic bladder
    - Interstitial cystitis
  - Painful sexual intercourse
  - Pelvic pain



## Vagus Nerve Stimulation (Epilepsy)

- In drug-resistant Epilepsy
- In treatment-resistant Major Depression



## Baclofen Pump

- In the treatment of severe contractions in the arm, leg or trunk that are resistant to drug treatment, called resistant spasticity;
- The application procedure in neuromodulation interventions varies according to the hospital and by whom it is performed. Generally, electrodes or catheters are placed under local anesthesia (without putting the patient to sleep). The implanted device can stay in your body for as long as you need it and can be removed at any time. In addition, when a permanent pulse generator is implanted, no part of the device remains outside the body and everything is buried under the skin.



## Most Important Common Features and Advantages of Neuromodulation Devices

- Programming changes can be made at any time with the remote control
- No permanent damage
- Preceded by a test period (except Vagus Nerve Stimulation and Deep Brain Stimulation)
- The pulse generator must be rechargeable (except Vagus Nerve Stimulation and Baclofen Pump)



All these Neuromodulation interventions, whose features we have briefly mentioned above, are successfully applied in our Neuromodulation Center. The experience of the physician is very important in such applications.



# Our Services

You can be sure that you will receive the best service during your treatment. If you decide to visit our center, we are offering a complete treatment package.

The package includes:

▪ **Full examination of the patient by all necessary specialists;**

- \*Neurologist,
- \*Neurosurgeon
- \*Psychologist
- \*Anesthesiologist
- \*Nutritionist
- \*Cardiologist
- \*Physical Therapy and rehabilitation specialist.



▪ **Establishing the correct diagnosis before the surgery.**

▪ **Discussion the expectation with the patient and patient's relatives**

▪ **All laboratory and Radiological examinations;**

- Serological evaluations
- Chest Radiology
- Necessary blood tests
- 2 times Whole Brain Computerized Tomography (preoperative for planning and postoperative for electrode position checking) Under sedation
- Detailed Whole Brain Cranial MRI (under general anesthesia for higher quality of images).



### Deep Brain Stimulation Surgery includes:

- Necessary equipments for the surgery (FDA approved )
- All necessary medication
- The work of the medical team led by **Dr. ATILLA YILMAZ**
- Postoperatively daily DBS system check and wound care.
- Postoperatively daily DBS programming
- Post-operative rehabilitation and physiotherapy exercises.
- Walking and occupational therapy

These services are available as standard in all our service packages, service packages including extra services are also available.



## Our services also includes:

- 7 DAYS at the hospital for the patient and his/her two relatives.
- 7 DAYS accommodation at the hotel for the patient and his/her relatives during the rehabilitation and physical therapy period.
- Three meals a day for patients and his/her relatives during the stay (hospital and hotel).
- Transfer to and from the airport.
- Airport - Hospital transfer Hospital - Hotel transfer After discharging Daily Hotel - hospital transfers.
- Long-term Postoperatively online consultations (for 2 years).
- Your treatment will continue for approximately 14 DAYS. Experienced staff and translators will be with you at every stage of your treatment. They will give you all the support and attention you need.



# Transfer

When you land at the airport in Turkey, we welcome you with a V.I.P transfer vehicle. A comfortable journey awaits you from the airport to our hospital with our transfer vehicle. And after your treatment is completed, we drop you back to the airport.

**‘We provide the best transfer and accommodation opportunities for you.’**

During the 2 weeks period here, you will stay in our hospital for the first week to monitor your medical process. In the second week, we provide accommodation in the hotel located in an area close to our hospital so you can come everyday for dressing, examination, and stimulation programming.

We have two different hotel options. in standart package you will have room in a 3-star hotel with suites. Additionally you can upgrade your package with 5-star hotel with standard rooms. During these stays, 2 relatives of our patient can accompain.

# Hotels

# Post operative Rehabilitation

For every patient we provide physical therapy and Psychological support at the hospital and hotel.

Physical therapy is very important for patients who have difficulty in walking or moving for a long time due to their illness.

Physical therapy is applied to correct posture, walking, and muscle imbalance, to increase mobility and endurance. It may include point therapy to reduce stiffness and relieve pain, in addition to strenuous therapy exercise to strengthen the joints, mobilize them, and restore soft tissue.

We also support our patients by psychological evaluation and therapy.

# Food

Our package also includes 3 times meal per day for the patient and 2 relatives, and also we prepare some traditional surprises, and welcoming snacks.

**Our center and our Professor have provided training opportunities on Neuromodulation surgeries to 25 countries named below.**

**Our professor**  
**Assoc.Prof. Dr. Atilla YILMAZ**  
**has contributed to the realization of such surgeries in all these countries.**

- Germany
- Azerbaijan
- United Arab Emirates
- Algeria
- Morocco
- South Africa
- Georgia
- Croatia
- Iraq
- Iran
- Qatar
- Kazakhstan
- Kyrgyzstan
- Libya
- Lebanon
- Egypt
- Mongolia
- Moldova
- Uzbekistan
- Pakistan
- Romania
- Russia
- Saudi Arabia
- Tajikistan
- Jordan

**Our professor**  
**Assoc.Prof. Dr. Atilla YILMAZ** has  
successfully operated more than 500  
patients from 30 different countries in  
terms of neuromodulation surgeries.

- Germany
- Austria
- Azerbaijan
- Bulgaria
- Algeria
- Palestine
- Georgia
- Netherlands
- Iran
- Iraq
- Kazakhstan
- Kyrgyzstan
- Kosovo
- Kuwait
- Turkish Republic  
of Northern Cyprus
- Libya
- Lebanon
- Mongolia
- Nigeria
- Uzbekistan
- Pakistan
- Russia
- Saudi Arabia
- Serbia
- Syria
- Tajikistan
- Tunisia
- Turkmenistan
- Ukraine
- Jordan

# NEUROMODULATION

Nerve

Regulator

Neuromodulation, which literally means regulating the nervous system, consists of 5 different surgeries applied on different diseases.

## Deep Brain Stimulation

Parkinson's  
Dystonia (involuntary movement and contraction)  
Essential Tremor Treatments



## Spinal Cord Stimulation

Diabetic Neuropathy  
Back or Neck Surgery  
Pain Due to Vascular Diseases (Bueger)  
In the treatment of pain (phantom) resulting from the amputation of a certain limb

## Sacral Stimulation (Bladder Stimulation or Hip Stimulation)

Urinary Incontinence, Failure to Urinate, Inability to Urinate, Incomplete Urine Discharge,, Frequent urination  
Involuntary incontinence of flatulence  
Interstitial Cystitis, Pelvic Pain, Chronic Constipation  
Neurogenic Bladder Treatments



## Vagus Nerve Stimulation (Epilepsy)

Epilepsy resistant to drug treatment

## Baclofen Pump

In the treatment of involuntary contractions (Spasticity)



**All these Neuromodulation Interventions are successfully applied in our Center.**



neuromedulationcenter



neuromedulationinturkey



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