



NEUROMODULATION CENTER

Nöromodülasyon ve Hareket Bozuklukları Merkezi Neuromodulation and Movement Disorders Center



Beyin Pili
Çözüm Olabilir!

Beyin pili (Derin Beyin Stimülasyonu), distoni, parkinson, tembel titreme, çeşitli koreyform bozukluklar, Parkinson hastalığı gibi hareket bozuklukları için etkili bir çözümdür.

Deep Brain
Stimulasyon

Centrum

Derin Beyin Stimülasyonu (DBS) nedir?

DBS nedir?

DBS nasıl yapılır?

DBS'in faydaları nelerdir?

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About us

Neuromodulation Center is a health and consultancy center based in Turkey. As our doctor **Associated Professor Atilla YILMAZ M.D.** who is an expert in his field, and his Neuromodulation team, we provide health care with the best service and the latest FDA approved technological equipment. Today, many people are unaware that there are some surgical treatment methods for movement disorders. We ensure that many of our patients suffering from such these diseases can have higher quality of life without the disease symptoms.

Our center is located in Medicana Atasehir Hospital / Istanbul TURKIYE.

Our aim is to make it easier for you to get highest quality health services, to reduce your waiting time and to offer the best treatment methods.

Our primary area of interest is Neuromodulation surgeries such as;

- * Deep Brain Stimulation,
- * Spinal Cord Stimulation,
- * Sacral Stimulation,
- * Vagus Nerve Stimulation
- * Intrathecal Baclofen Pump.

‘ As Assoc. Prof. Atilla YILMAZ and his Neuromodulation team, we treated more than 500 patients from around 30 different countries from all around the world and sent them back to their countries in a healthy and happy condition. Our Neuromodulation team consists of 10 professionals who are the experts in their field. We are there for all of our patients in their every need, regardless of time. ’



Biography

Assoc. Prof.
Atilla YILMAZ M.D.

Dr. Atilla YILMAZ, received his medical degree at Istanbul University, Cerrahpasa faculty of medicine (2000). Upon completion of his residency in University of Mustafa Kemal, he joined to Department of Neurosurgery of the same university as an instructor.

Also, he has been at **University of Florida** Center for Movement Disorders and Neurorestoration and University of Florida Health Shands Hospital in USA with, Prof. Kelly D. Foote and Prof. Michael S. Okun in 2016 and 2017 to improve his experiences in treatment of movement disorders.





Dr. Atilla YILMAZ's major fields of interest include Functional Neurosurgery and Neuromodulation surgeries. His work in these fields has been extensively published. He teaches several hands-on courses, cadaver courses, and live surgery courses for physicians on how to perform neuromodulation surgeries. He has been actively involved in the mentoring and training of over 50 neurosurgical fellows and observers. **He pioneered opening of many new Neuromodulation centers** throughout the country and the world, He pioneered the implementation of neuromodulation applications **for the first time in many countries. So far, he has trained physicians from 26 different countries on Neuromodulation interventions.**



Association Duties



Association duties of our Assoc. Prof. Atilla YILMAZ MD:

- President of Neuromodulation Technologies Research, Development and Patient Education Association
- Vice President of Neuromodulation Research and Education Association (Turkish Chapter of International Neuromodulation Society)
- Vice President of Middle-Eastern Society for Stereotactic and Functional Neurosurgery (Continental Chapter of World Society for Stereotactic and Functional Neurosurgery)
- Chairman of Turkish Neurosurgery Association Foreign Relations Board.

He has served in Editorial Boards of several journals and member of editorial board of more than 10 Neurosurgical books.

He received the golden medal award from Middle East Society of Stereotactic and Functional Neurosurgery (MSSFN) in 2022.



2nd DEEP BRAIN STIMULATION & PAIN INTERVENTIONS CADAVER COURSE

Includes all interventional Neurointervention approaches like DBS, DCS, SRS, etc.
Marmara University Campus Başibüyük, İstanbul
May 26-27, 2023

www.cadavercourse.org

2nd DEEP BRAIN STIMULATION & PAIN INTERVENTIONS CADAVER COURSE

Prof. Atilla YILMAZ



Memberships

**Assoc. Prof. Atilla YILMAZ M.D.
is member of the following
international societies:**



World Society of Stereotactic and Functional Neurosurgery



International Neuromodulation Society



European Society of Stereotactic and Functional Neurosurgery



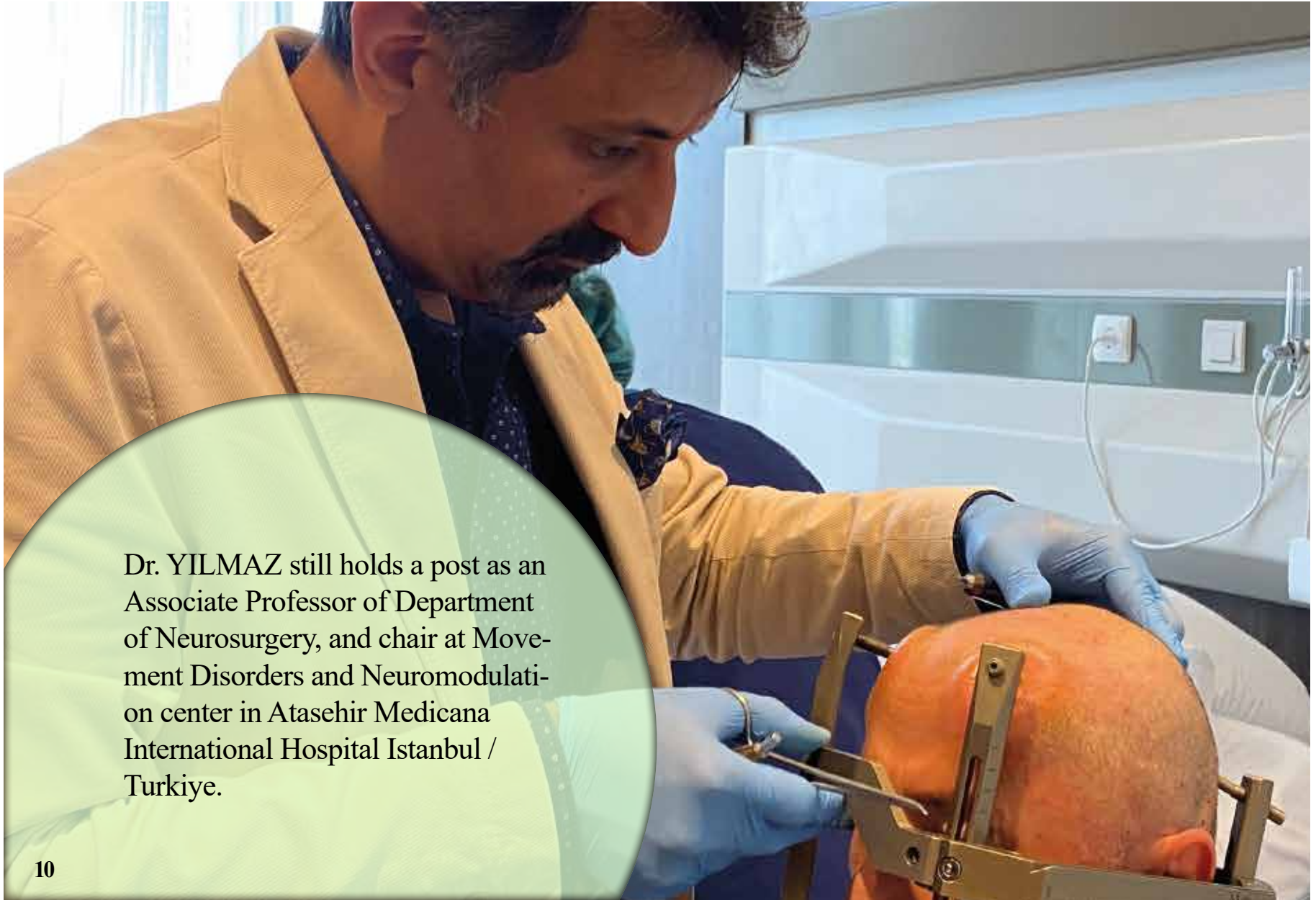
Middle-eastern Society of Stereotactic and Functional Neurosurgery



International Parkinson and Movement Disorder Society



Turkish Neurosurgical Society



Dr. YILMAZ still holds a post as an Associate Professor of Department of Neurosurgery, and chair at Movement Disorders and Neuromodulation center in Atasehir Medica International Hospital Istanbul / Turkiye.

You can set an appointment and get in contact with our Doctors (live conversation by whatsapp or by zoom), you can ask to our Doctors their opinion or you can ask for more information direct from our expert Doctors. Our doctors can speak fluent English and Arabic. For other languages (Russian, Kazakh, Uzbek, Kyrgyz, French) our translators accompany the doctor.



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).



A photograph of a modern hospital hallway with a hexagonal tile floor and a wall featuring the Medicana logo. The logo consists of the word "MEDICANA" in blue capital letters, followed by two vertical blue bars of varying heights. The hallway is brightly lit, and several white chairs are visible in the foreground on the left.

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

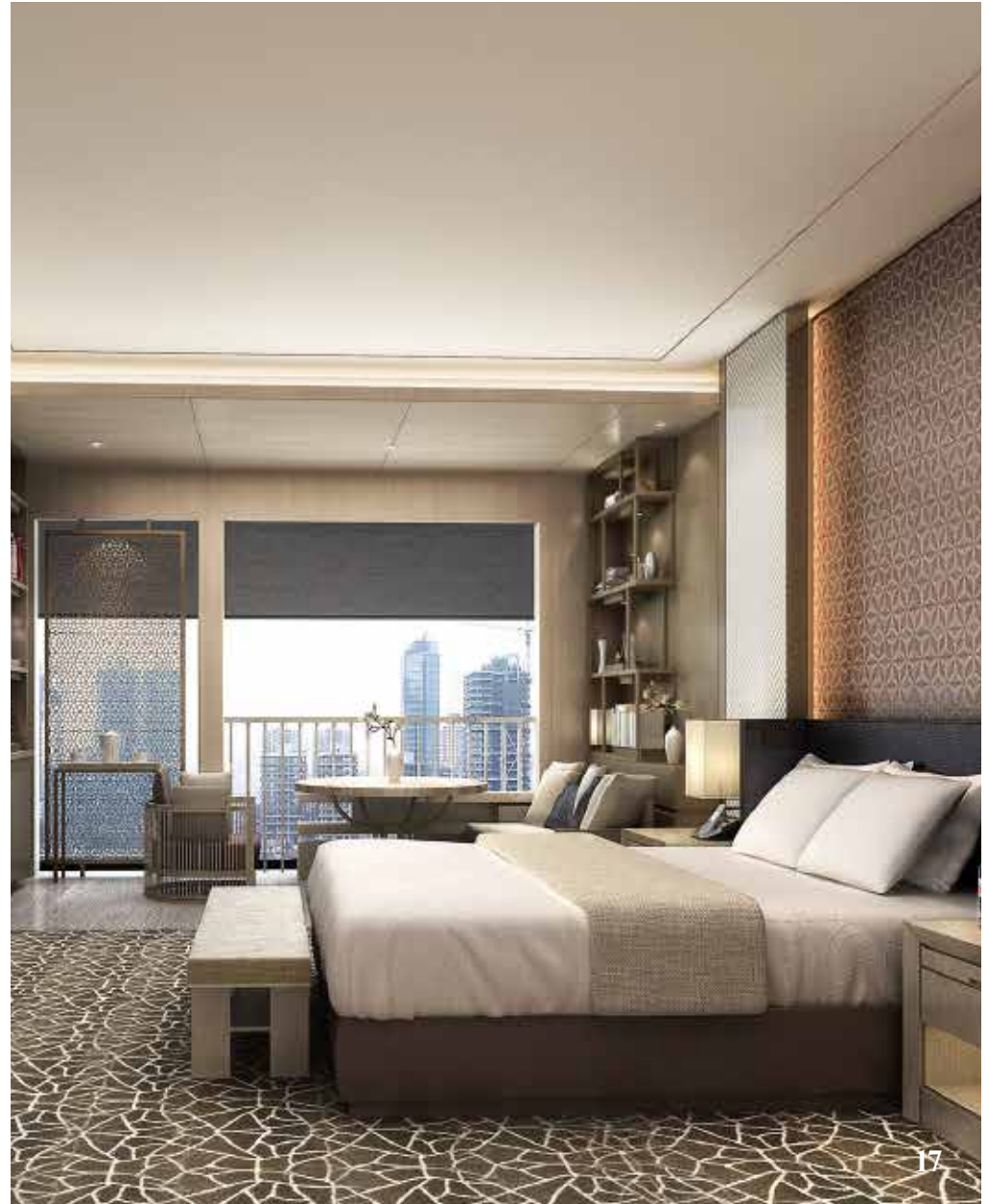
When you land at the airport in Turkey, we welcome you with a V.I.P transfer vehicle. A comfortable journey awaits you from the airport to our hospital with our transfer vehicle. And after your treatment is completed, we drop you back to the airport.

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

Hotels

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.





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.

International Patient Representative



Hatice ILIMDAR

Hello, my name is Hatice. I was born in Kyrgyzstan and after high school graduation I moved to Istanbul for university. I got my Bachelors degree at Nişantaşı University and I did my Masters in Business Administration at Doğuş University. I can freely speak **Russian, English, Uzbek, Kyrgyz and Turkish languages.**

At Neuromodulation Center I am responsible of providing and organizing the best treatment period for our precious international patients like you. My main goal is to provide a primary contact with the doctor and all medical team for the patients, and offer informational and emotional support to create a positive experience I'm clarifying all details, listening to patients, answering to their questions and responding to their concerns.

We have 5 staff members in our International department and they can speak **Arabic, English, Russian, Uzbek, Kyrgyz and Kazakh** languages, for the other languages we can get support as well.

From the welcoming at the airport till the end of their treatment period we are arranging services like consultations with the doctors, medical examinations, transfer, food, hotel and city tour.

I will be glad to see you in our center. For any questions please feel free to contact with us.





We provide the
best treatment
and best service.

COUNTRIES THAT CHOSE OUR NEUROMODULATION CENTER FOR THE TREATMENT

So far, in our center we operated more than 500 patients from 30 countries.



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

COUNTRIES THAT CHOSE OUR CENTER TO LEARN ABOUT NEUROMODULATION SURGERIES

Our Professor pioneered opening of several Neuromodulation centers all around the world.

So far, he shared his knowledge with his colleagues who came from 26 different countries

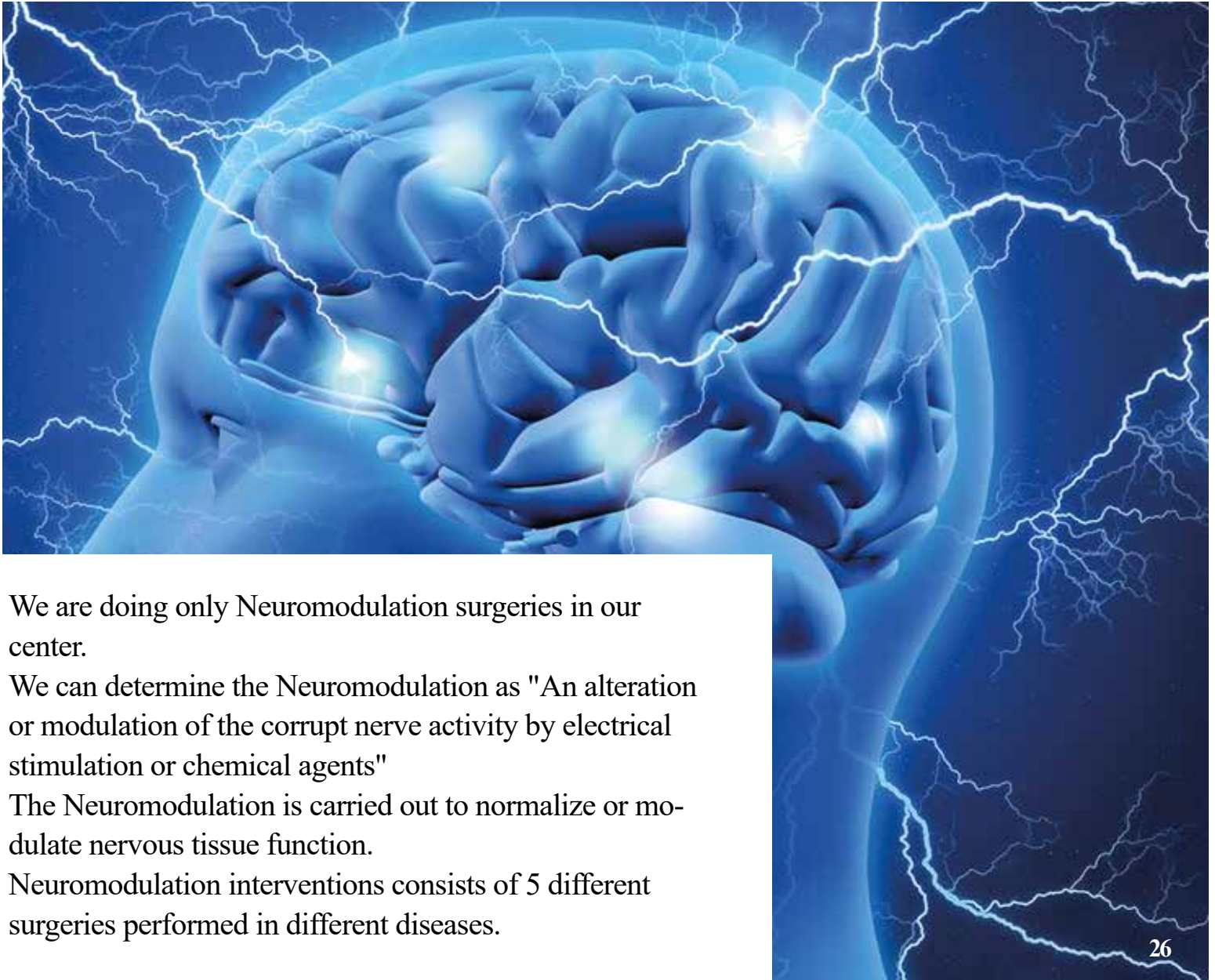


- Algeria
- Azerbaijan
- United Arab Emirates
- Morocco
- South Africa
- Georgia
- Croatia
- Iraq
- Iran
- Qatar
- Kazakhstan
- Kyrgyzstan
- Libya
- Lebanon
- Mongolia
- Uzbekistan
- Pakistan
- Russia
- Serbia
- Romania
- Saudi Arabia
- Tajikistan
- Jordan
- Germany
- Egypt
- Moldova



Surgeries

Neuromodulation



We are doing only Neuromodulation surgeries in our center.

We can determine the Neuromodulation as "An alteration or modulation of the corrupt nerve activity by electrical stimulation or chemical agents"

The Neuromodulation is carried out to normalize or modulate nervous tissue function.

Neuromodulation interventions consists of 5 different surgeries performed in different diseases.



1. Deep Brain Stimulation for;

- Parkinson's Disease
- Dystonia
- Essential Tremor
- Obsessive–Compulsive Disorder (OCD)
- Epilepsy

2. Spinal Cord Stimulation for;

- Intractable Pain
- Diabetic Neuropathy
- Failed Back and Neck Surgery
- Buerger Disease
- Phantom Pain
- Ischemic Pain

3. Sacral Stimulation for;

Urinary Incontinence
Urge incontinence
Fecal Incontinence
Interstitial Cystitis
Overactive Bladder
Urinary Retention
Urinary Urgency-Frequency

4. Vagus Stimulation for;

Intractable Epilepsy
Major Depression
Episodic Cluster Headache

5. Intrathecal Baclofen Pump for;

Intractable Spasticity
Intractable Pain



Deep Brain Stimulation

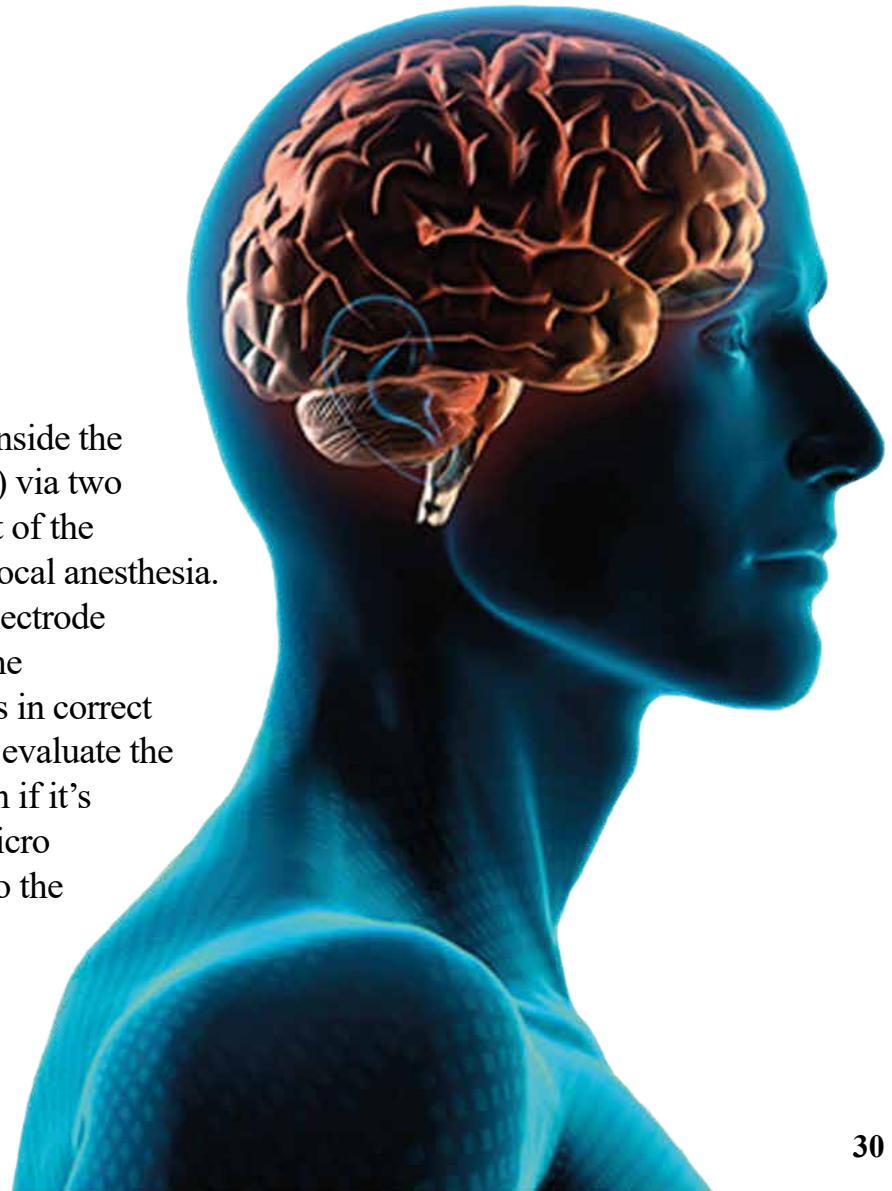
What is Deep Brain Stimulation surgery ?

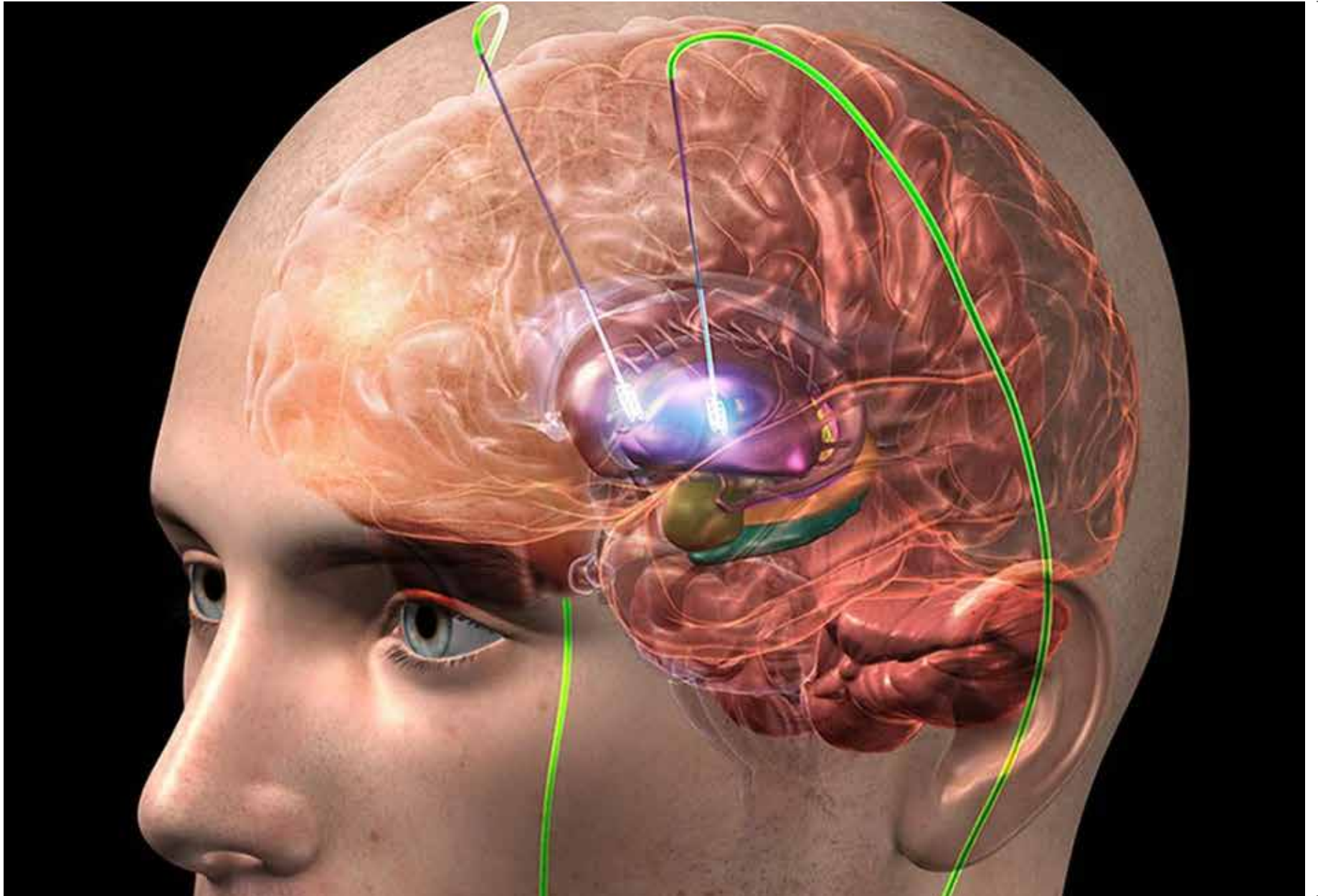
Deep brain stimulation (DBS) surgery is a technological surgical procedure involving the placement of two electrodes inside the brain and connect them via extension cables to a neurostimulator (pulse generator). This implantable pulse generator sends electrical impulses, through implanted electrodes, to specific targets in the brain (brain nuclei) for the treatment of some disorders including Parkinson's disease, essential tremor, dystonia, Obsessive–Compulsive Disorder (OCD), and Epilepsy.

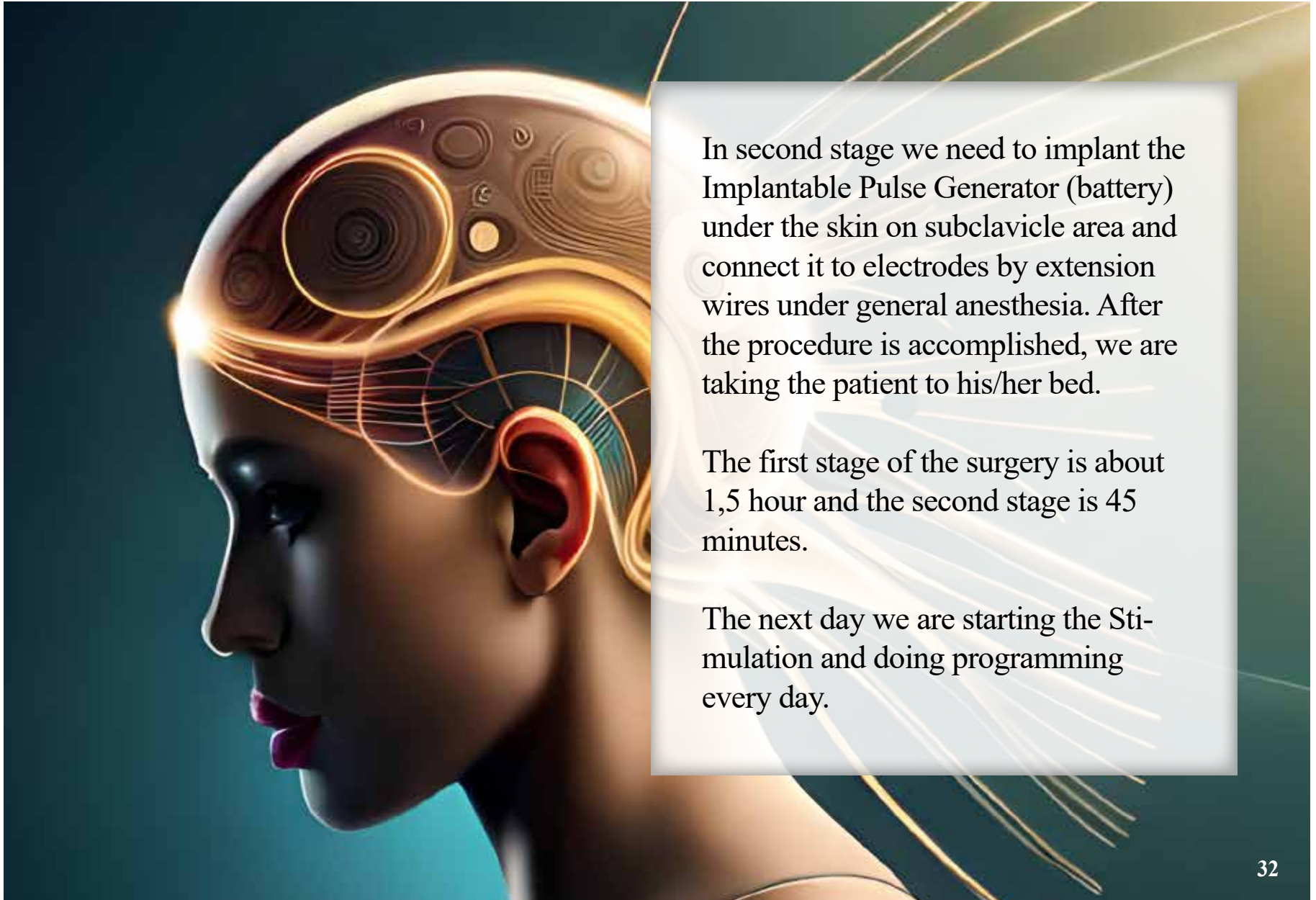
How is Deep Brain Stimulation surgery performed?

Deep brain stimulation (DBS) surgery is performed in two parts.

In first part we need to implant two bilateral electrodes inside the brain nuclei (which targeted area by MRI images before) via two small holes under local or general anesthesia. In this part of the surgery the patient doesn't feel any pain because of the local anesthesia. When we are implanting the electrodes we do a micro electrode recording (listening the sound of the brain) to evaluate the areas of the brain and to be sure to implant the electrodes in correct position. After the implantation we send a test signals to evaluate the position of the electrodes and we can change the position if it's necessary. When the surgical team satisfied about the Micro electrode recording and Macrostimulation we can pass to the second stage. Before starting to the second stage, we are taking the patient to CT to check the electrode position radiologically too..





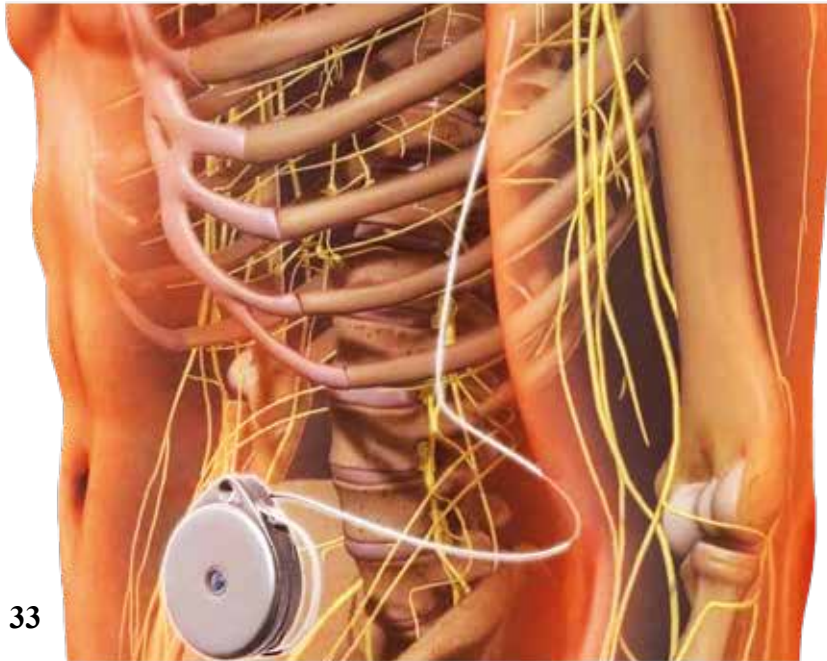


In second stage we need to implant the Implantable Pulse Generator (battery) under the skin on subclavicle area and connect it to electrodes by extension wires under general anesthesia. After the procedure is accomplished, we are taking the patient to his/her bed.

The first stage of the surgery is about 1,5 hour and the second stage is 45 minutes.

The next day we are starting the Stimulation and doing programming every day.

Intrathecal Baclofen Pump Therapy



What is Intrathecal Baclofen Pump Therapy?

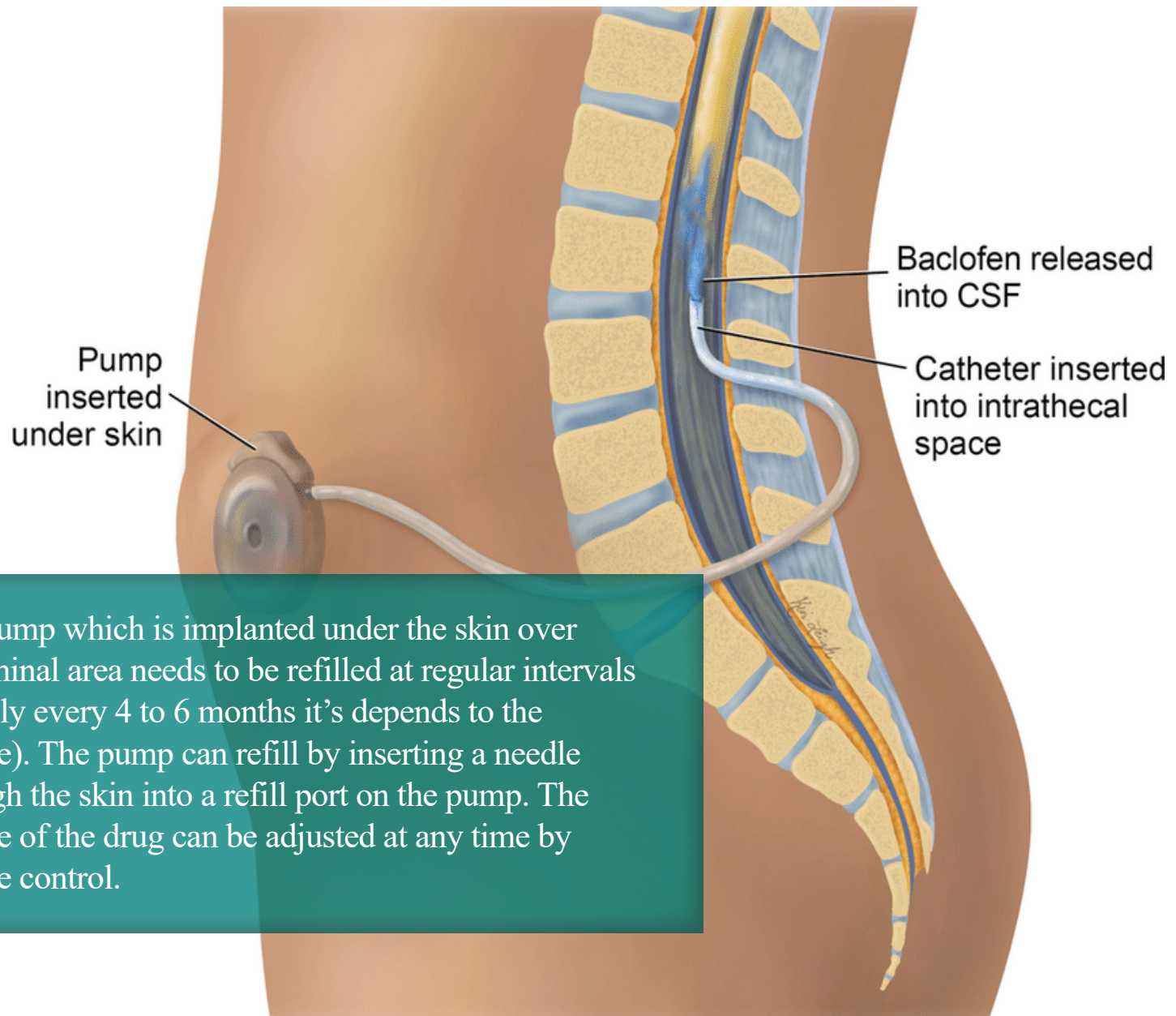
Intrathecal Baclofen Pump Therapy (ITB) is a treatment method using an Intrathecal drug (baclofen) that is delivered into the cerebrospinal fluid around the spinal cord (intrathecal) to resolve the severe spasticity. The drug is placed into an adjustable pump that is surgically placed under the skin of the abdomen, the adjustable pump delivers baclofen to the Intrathecal area through a small tube (catheter) into the cerebrospinal fluid. Since the pump is adjustable, we can program the pump to deliver the appropriate daily dose for the patient.

Before the surgery there is a test opportunity, we do a test dose to see how the patient's respond to the drug when it is delivered in same way. After the test dose is done, if the result is satisfactory we decide to implant the pump.

How is Intrathecal Baclofen Pump Therapy surgery performed?

Placing the Intrathecal Baclofen Pump is not a difficult procedure, but to have successful and efficient surgery with low complication rates, the surgery must be done by experienced hands. The surgery must be done under general anesthesia. Firstly, the catheter must be implanted to the spinal cord from lumbar area. After the C-arm verification the other end of the catheter must be tunneled under the skin and connected to the pump which implanted under the skin over abdominal area.





The pump which is implanted under the skin over abdominal area needs to be refilled at regular intervals (usually every 4 to 6 months it's depends to the dosage). The pump can refill by inserting a needle through the skin into a refill port on the pump. The dosage of the drug can be adjusted at any time by remote control.

What is Spinal Cord Stimulation Surgery (Brain Pacemaker)?



Spinal Cord Stimulator (SCS) is a device which surgically placed over the spinal cord and sends a mild electric current. The electrical activity blocks the pain feeling because the electrical pulses modify and mask the pain signal from reaching your brain. Briefly we can say that, the Spinal Cord Stimulation (SCS) therapy prevents abnormal pain signals to reach to the brain.

Spinal Cord Stimulation

How is Spinal Cord Stimulation surgery performed?

Before the device is permanently implanted, a trial stimulation should be performed to find best candidates. So, we can test the effectiveness. The goal of spinal cord stimulation surgery is a 50-80% reduction in pain. But you need to keep in your mind, even a small amount of pain decrease can be very helpful because it helps you to perform your daily activities with less pain and reduces the amount of medication you need to take.

We can implant the Spinal Cord Stimulation electrodes percutaneously (under local anesthesia) or surgically (under general anesthesia).

Spinal Cord Stimulation can be used for the treatment of Chronic Pain, Diabetic Neuropathy, Failed Back and Neck Surgery, Buerger Disease, Phantom Pain, Ischemic Pain, Vascular pain, and cancer pain.







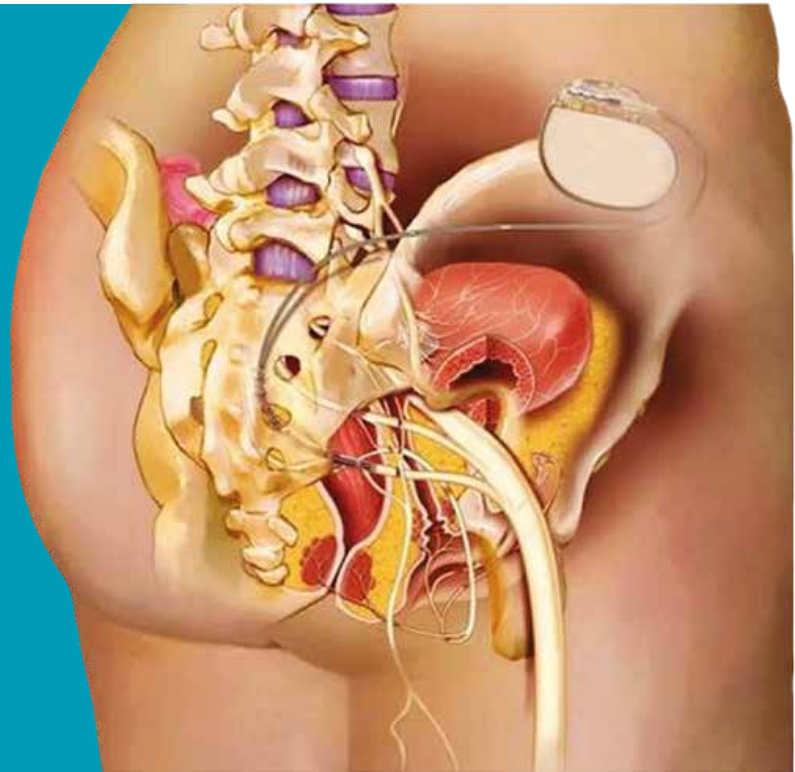
If in trial period the patient is not satisfied about the effect of the spinal cord stimulation, the electrodes can be removed completely, and it does not damage the spinal cord or nerves (reversible). The best advantage of such these operations is a reversibility (all Neuromodulation approaches like Spinal Cord Stimulation, Deep Brain Stimulation, Sacral Stimulation, Vagal Stimulation and Intrathecal Baclofen Pump are reversible interventions, therefore they never result with permanent damage).

Sacral Nerve Stimulation

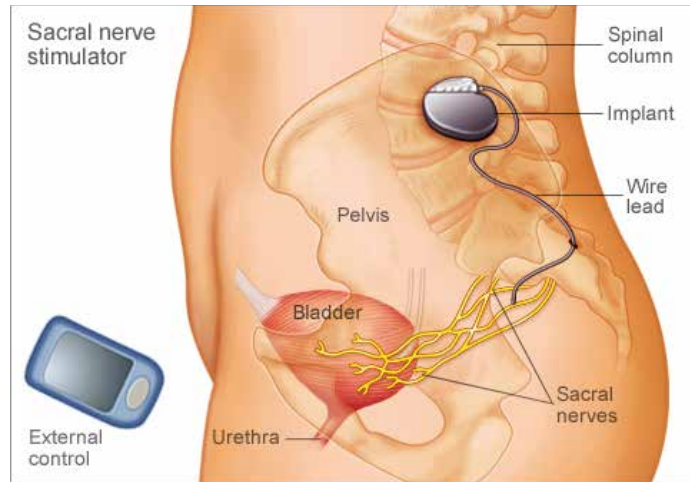
What is Sacral Nerve Stimulation Surgery?

This implantable pulse generator sends electrical impulses to the sacral nerves through implanted electrodes, these nerves are responsible to control the bladder, sphincter, and pelvic floor muscles that contribute to bladder and anal control. The electrical stimulation can eliminate or reduce certain bladder or bowel control problems or neurological pathologies.

Sacral Nerve Stimulation (SNS) surgery (sometimes referred to as a "pelvic battery") is a technological surgical procedure involving the placement of an electrode over the S3 nerve which located in lower back (just above the tailbone) and connecting this electrode to a neurostimulator (pulse generator) via an extension cable.



Placing the Sacral Nerve Stimulation electrode and the battery is not a difficult procedure, but to have successful and efficient surgery with low complication rates, the surgery must be done by experienced hands. The surgery is mostly done under local anesthesia, but it can be done under general anesthesia too.



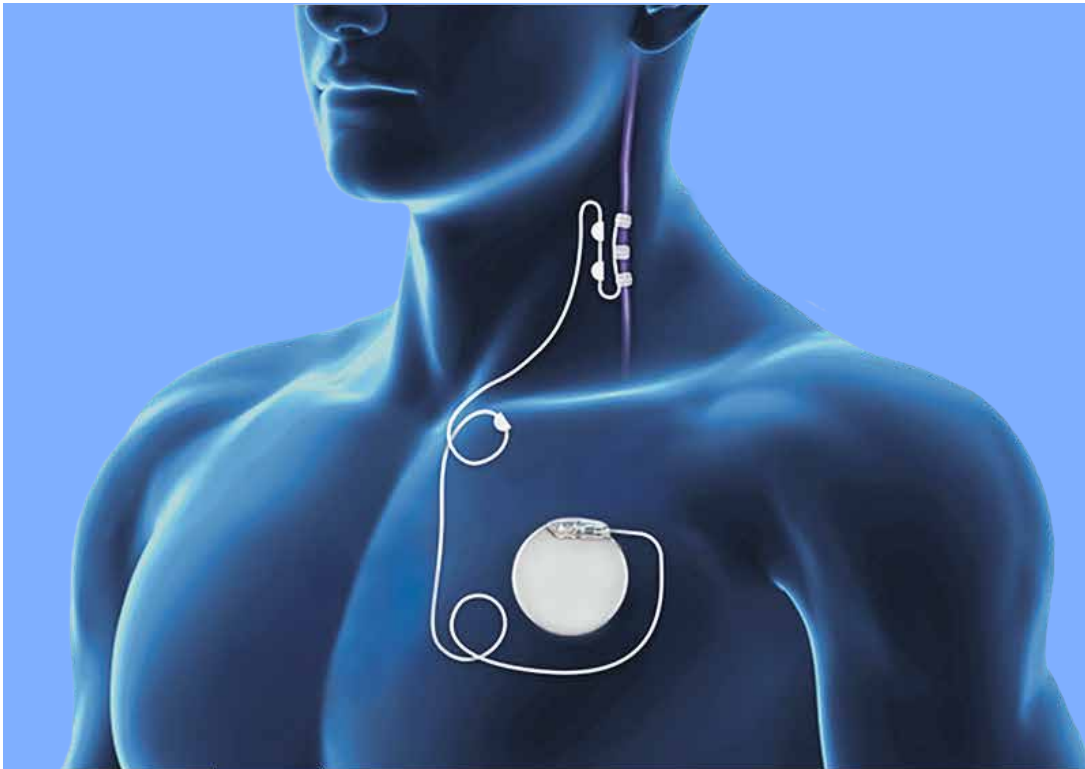
How is Sacral Nerve Stimulation surgery performed?

The best advantages such these operations are reversibility, adjustability and testability (all Neuromodulation approaches like Intrathecal Baclofen Pump, Spinal Cord Stimulation, Deep Brain Stimulation, Sacral Nerve Stimulation, and Vagal Stimulation and are reversible interventions, therefore they never result with permanent damage).

Firstly, the electrode must be implanted into the S3 foramen by the guidance of C-arm. After the C-arm check and the test stimulation verification the electrode must be tunneled under the skin and connected to the external pulse generator. After the two or three-weeks trial period if the patient satisfied about the result the implantable pulse generator could be placed under the skin and connect to the electrode.

Vagus Nerve Stimulation Epilepsy Battery

Vagus Nerve Stimulation (VNS) is used to treat drug-resistant epilepsy and major depression disorder. Vagus Nerve Stimulation surgery (sometimes referred to as a "epilepsy battery") is a technological surgical procedure involving, the placement of an electrode over the vagus nerve which is located in the left neck area, and connecting this electrode to a implantable pulse generator.



This implantable pulse generator sends electrical impulses to the vagus nerve through implanted electrodes, this nerve transfers these impulses to the special brain area to control abnormal signals which responsible for seizures.



How is Vagus Nerve Stimulation surgery performed?

Placing the Vagus Nerve Stimulation electrode and the battery is not a difficult procedure, but to have successful and efficient surgery with low complication rates, the surgery must be done by experienced hands. The surgery must be done under general anesthesia.

Firstly, the electrode must be implanted over the left Vagus nerve which is located in the cervical (neck) area. After the implantation, the electrode must be tunneled under the skin and connected to the implantable pulse generator which is implanted under the clavicle.

The best advantages of these operations are reversibility and adjustability (all Neuromodulation approaches like Intrathecal Baclofen Pump, Spinal Cord Stimulation, Deep Brain Stimulation, Sacral Nerve Stimulation, and Vagal Stimulation are reversible interventions, therefore they never result in permanent damage).

Who's Candidate to Vagus Nerve Stimulation Surgery?

Vagus nerve stimulation is intended for patients who have failed or cannot tolerate more conservative treatments for epilepsy or major depression.



Which important factors are important to decide to do Vagus Nerve Stimulation Surgery?

The most important factors about the decision is if the patient failed or cannot tolerate more conservative treatments like medications.



What are the risks for Neuromodulation Surgeries?

General complications of any surgeries are bleeding, infection, blood clots, and reactions to anesthesia. In that point the evaluation of the patient before the surgery and the experiences of the especially the surgeon and the team is so important and crucial. Our team has experience more than 500 Neuromodulation surgeries and include Neurosurgeon, Neurologist, Programmer Physician, Physical Therapy and Rehabilitation physician and technicians and Neuropsychiatrist.

To reduce the complication risks we use the most technological and only FDA approved equipments. We are very experienced and qualified in this field, we always follow the latest literatures and technologies and to reduce the complication risks we take all precautions.



**We treated more than
500 patients
from around
30 different countries
from all around
the world.**

**WHY DON'T
YOU BE THE NEXT???**



NÖRÖMODÜLASYON AMELİYATLARI
KİÇİN MERKEZİMİZE GELEN
ÜLKELER

COUNTRIES THAT COME TO OUR
CENTER FOR NEUROMODULATION
SURGERIES

Austria	Azerbaijan
Bulgaria	Georgia
Germany	Holland
Iran	Iraq
Jordan	Kazakhstan
Korea	Kuwait
Kyrgyzstan	Lebanese
Udyr	Mongolia
Northern Cyprus	Palestine
Russia	Saudi Arabia
Serbia	Syria
Tajikistan	Tunisia
Turkmenistan	Uzbekistan

NÖRÖMODÜLASYON AMELİYATLARI
KONUSUNDA EĞİTİM VERDİĞİMİZ
ÜLKELER

COUNTRIES WHERE WE PROVIDE
TRAINING ON NEUROMODULATION
SURGERIES

Azerbaijan	Croatia
Dubai	Georgia
Iran	Iraq
Jordan	Kuwait
Kazakhstan	Lebanese
Kyrgyzstan	Mongolia
Morocco	Pakistan
Romania	Russia
Saudi Arabia	Syria
South Africa	United Arab Emirates
Uzbekistan	Tajikistan

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Contact