

# Deep Brain Stimulation

Deep Brain Stimulation (DBS) is one of the advanced therapies for Parkinson's disease. It may be considered as an option for people if oral medication is no longer controlling motor symptoms as effectively.

What is DBS?

DBS is a neurosurgical procedure where electrode wires are positioned in the brain. These wires are connected to a stimulator which delivers pre-programmed steady pulses of an electrical current to those areas of the brain that controls movement. The electrodes are placed in a specific targeted area within the brain structure. The lead inserted into left side of brain controls symptoms affecting the right side of body and the lead inserted into the right side of the brain controls symptoms affecting the left side of the body. The neurostimulator is placed under the skin near the collarbone. The stimulator can be rechargeable or non-rechargeable, depending on option agreed. The battery life is dependent on the stimulation settings and conditions. The team at your surgical centre will be able to provide more information as it may vary depending on manufacturer and model of device chosen. Your length of stay will be dependent on your recovery and policy in surgical unit.

Like all types of surgeries, there are risks involved with DBS surgery. These risks will be explained and addressed by the neurosurgical team and the neurologist or DBS nurse.

Initially your device will remain switched off. Approximately 4-6 weeks post-surgery your device will be switched on by the neurology team. This process involves identifying the contacts which are best at improving your symptoms.

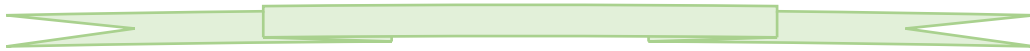
DBS is not a cure and does not stop the progression of Parkinson's Disease but it may assist in improving & controlling motor symptoms and in turn improving quality of life for those affected by Parkinson's Disease.

- DBS may help control motor symptoms for a longer period of time than oral medications. Therefore decreasing 'off' periods/'off' time.
- DBS may help reduce motor fluctuations and dyskinesia
- DBS may be an effective treatment for tremor or dystonia
- In controlling motor symptoms, DBS may in turn improve non motor symptoms (sleep, pain)
  
- DBS treatment is an adjunctive therapy which may be used in combination with oral medications or another advanced therapy to optimise symptom control. The therapy regime will be at the discretion of your neurologist following programming and assessment.

**The National Deep Brain Stimulation Service** was established in Ireland in 2021. The service incorporates the combined expertise of the national neurosurgical centre in Beaumont Hospital and the National Deep Brain Stimulation service of the Dublin Neurological institute Mater Hospital.

### The DBS Process

- Your neurologist/ Gp/Physician can refer you to The National service following discussion with you as to whether this is a suitable treatment option.
- The referral process involves a multidisciplinary team approach. An initial assessment will be undertaken by the consultant neurologist in DNI Mater hospital. If appropriate you will then be referred to the multi disciplinary team for further assessments. This may include: DBS nurse specialist, physiotherapist, speech and language therapist, neuropsychologist.
- The team will then review as to whether you are a suitable candidate for surgery and feedback to you the results. The assessment process may take a period of time.
- There is a multidisciplinary team approach with scheduled follow up appointments and assessments. This ensures that all aspects of the Deep Brain Stimulation treatment and Parkinson's disease can be monitored, assessed and addressed if necessary.



- If you have been referred for Deep Brain Simulation assessment it may be of benefit for you to speak with someone who has previously undergone this treatment, to hear first-hand of their experience. Remember no two individuals with Parkinson's Disease are the same. DBS works effectively for some people with Parkinson's but does not work for everyone.
- If you have DBS and require hospitalisation, surgical or dental procedures you should bring it to the attention of the treating physician that you have a DBS system in situ.
- MRI guidelines are available dependent on manufacturer and model. Please make clinician aware if MRI required.
- If traveling by plane, please inform security personnel that you have a DBS system. As security scanner may inadvertently turn off your device. It is suggested that you take your handheld programming device in hand luggage in case your stimulator is switched off accidentally.

Note: The DBS process may vary from centre to centre. The above is the current practice in National DBS Service Ireland, but the process is subject to change and may vary.

Acknowledgements: Dr Richard Walsh & Fiona Ronan DBS Clinical Nurse Specialist (Mater Hospital Dublin)  
Parkinson's UK [www.parkinsons.org.uk](http://www.parkinsons.org.uk)