

## **DBS treatment for NZ Patients with idiopathic Parkinson's disease and other Movement Disorders - Information November 2013.**

Auckland City Hospital became the NZ National Centre for DBS surgery for patients throughout the country in late 2008. The first surgery was performed in 2009. At present there is an annual allocation of funding for 14 patients per year. There is an approved list of indications, currently only comprising movement disorders.

The approved indications include: Idiopathic Parkinson's Disease, Dystonia in its various forms, Benign Essential Tremor, Cerebellar Outflow tract tremors and hemiballismus. Application has been made to extend the indications to include Tourette's Syndrome but no agreement has yet been reached. As the indications for this surgery increase with further research, it is envisaged that the approved indications will be modified.

Should a patient require consideration for DBS with an indication not included in the current approved list of indications, application to the High Cost Treatment programme, administered by the Health Department, for funding to receive the surgery overseas is possible.

As demand has grown, the need for a larger number of funded operations has been recognised but not yet funded.

Patient selection is carried out by the DBS team at Auckland City Hospital in conjunction with the National Committee for Deep Brain Stimulation. The National Committee comprises Neurologists and Neurosurgeons in the main NZ centres. The Chairman of the Committee is Dr David McAuley, Neurologist, Auckland City Hospital.

It is expected that patients will be referred by their treating Neurologist through the local DHB. The local DHB will help with travel and accommodation arrangements. Once the surgery has been performed the patient is managed conjointly by the DBS team and the local Neurologist. There is a programme of regular scheduled postoperative follow up at Auckland City Hospital.

Applications should be sent to Dr D McAuley, Auckland Hospital, as Chairman of the Committee. The most helpful form of application would be by letter, summarising the patient's progress, current clinical state and treatments. It would also be useful to enclose copies of outpatient clinic and inpatient discharge letters together with a current video of the patient taken both in the "on" and "off" states when dealing with Parkinson's Disease and using appropriate sequences with other disorders. The video should be provided as an MPEG file on a CD or as a DVD to facilitate distribution to members of the National committee. The patient should be asked to agree to disclosure of information to members of the committee and the Auckland City Hospital DBS Team. Patients are requested to sign a form recording his/her agreement.

If the patient is deemed potentially suitable by the DBS Team, further evaluation will proceed including psychiatric and neuropsychological assessment and subsequently a diagnostic MRI scan of the brain. A targeting scan is usually done at the same time. The patient is also seen by the Neurosurgeon.

The decision of the committee will be communicated to the referring Neurologist and to the patient.

Surgery is usually performed in two stages. The first stage involves intracerebral electrodes only, while the second stage, usually some six months later, involves connection of the rest of the wiring and insertion of the implantable

followed by the initial programming. Adjustment of medication dose is usually undertaken while programming is occurring particularly in the case of Parkinson's Disease. Part of the programming is usually done as an outpatient prior to the patient returning home.

At follow up visits programming adjustment takes place. If problems develop in the interim period the DBS team can be contacted through our Movement Disorders Nurse, Lorraine MacDonald, to assist with "troubleshooting". There are designated neurologists in Wellington and Christchurch who are familiar with the stimulators and may also be in a position to test out or reprogram the stimulators, if necessary.

For particular advice, Dr David McAuley, Neurologist or Dr Mark Simpson, Neurologist can also be contacted.

On average, the IPG batteries last 3-7 years. When the IPG battery is at the end of its life, the entire unit has to be replaced. This is usually done at Auckland City Hospital but can be done in the patient's local DHB. Please call the DBS team if you suspect the IPG battery may be failing.

Indications and results of DBS Surgery- Please see information for individual indications which is provided on request.

Auckland City Hospital DBS Team:

Movement Disorders Nurse: Mrs Lorraine MacDonald  
Neuropsychologist: Jamie McNiven  
Psychiatrist: Dr Greg Finucane  
Neurosurgeon: Mr Ari Bok  
Neurologists: Dr David McAuley & Dr Mark Simpson

Chairman NZ National DBS Committee:

Dr David McAuley, Neurologist