

Implant that tames Parkinson's

by ROGER DOBSON, Daily Mail 11:58am 25th November 2003

Mike Robins will never forget the exact moment his limbs stopped shaking for the first time in eight years.

He was wide awake in the operating theatre and a team of surgeons were delicately manoeuvring a probe 7cm inside his brain to alleviate the symptoms of Parkinson's disease.

'When the probe was passing certain parts of the brain, I saw colours brighter and more intense than ever before. When it moved to the area that controls speech, I had to keep talking, so that the team would know instantly if anything was wrong,' he says.

'Then the surgeon said there were just a few more millimetres to go, and as soon as he touched the correct spot, an area of the brain about the size of a cashew nut, my right leg and my right arm stopped shaking immediately.'

Results from a trial involving patients fitted with a new brain implant show that it greatly relieves the debilitating slowness, stiffness and shaking that are typical of the disease, which gradually stops people being able to look after themselves. Patients are able to manage without a carer.

The findings are expected to put pressure on the NHS to make it available to more people, many of whom react badly to drug treatments.

'After about five years, most patients suffer debilitating side effects from the drugs, which can often be worse than the disease itself,' says Professor Tipu Aziz, consultant at the Radcliffe Infirmary, Oxford, where Mike, had his operation.

'The implant is costly initially, but pays for itself within three years, as drug treatments can cost up to £12,000 a year.'

The tiny surgically implanted device delivers electrical stimulation to areas of the brain, known as the sub-thalamic nucleus, controlling movement and muscles.

The patient also needs a battery-powered neurostimulator implanted near the collarbone and connected via an extension lead that lies under the skin of the scalp.

The first neurostimulator that Mike had fitted was replaced after nearly four years but, with advances in technology, its replacement is expected to last over seven years.

Developed by Medtronic, it blocks the signals that cause the disabling symptoms and can be adjusted by remote control to meet individual patient's needs.

The treatment is aimed at patients in advanced stages of the disease who still respond to drugs, but whose symptoms are not adequately controlled, as well as those who find drugs ineffective.

Serious side effects of some drugs given to PD patients include dyskinesia (violent writhing), hallucinations, psychosis and depression.

Although the new treatment is available in Britain, only a relatively small number of people compared to the rest of Europe have as yet benefited from it.

'My problems began with a tic in my right shoulder about ten years ago and within two to three months there was an uncontrollable tremor down my right side,' he says.

'I consulted several medical practitioners in UK but was told by each that I was suffering from stress and should change my life-style. I was finally diagnosed with Parkinson's during a business trip to Shanghai. I was put on medication, different combinations of tablets, but nothing really worked, and there were a lot of side effects. The only alternative to medication, I was told, was surgery, which although it was in its infancy the results to date had been encouraging'.

'I was told I would have to remain awake throughout the operation, but that didn't worry me. Anything was better than the hell I was going through with the side effects of the drugs.

During the operation, a frame is attached to the patient's head and bolted in place to hold the head immobile and the probe and other instruments steady.

The patient needs to be awake so that surgeons can monitor for any untoward effects as the probe moves through the brain. It enters through a tiny hole drilled in the skull and travels about 7cm into the brain itself.

Once the right spot is found, the patient is anaesthetised and the implant and stimulator put into position.

'Seven years after the operation my symptoms are still suppressed and the only visible sign that I have Parkinson's Disease is that I drag my right leg a little and my writing is illegible – a tiny price to pay to escape the horrors of Parkinson's!'