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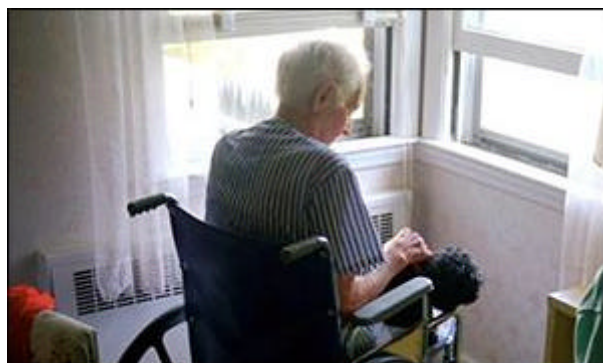
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Surgical implant benefits Parkinson's patients

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Parkinson's affects 120,000 people in the UK

Implanting a surgical device into the brains of patients with long-term Parkinson's Disease can significantly reduce their symptoms, a study has found.

Researchers from Oregon Health and Science University found the surgical procedure, called deep brain or electrical brain stimulation, can reduce tremors and poor balance in patients with the disease.

Many patients with Parkinson's are prescribed the drug levodopa to alleviate their symptoms. However, after years of use its effectiveness is reduced and motor problems, such as tremor and poor balance, increase.

But this latest study, which is one of the first to examine the effects of this type of surgery on Parkinson's patients, has found that implanting a device into the brain to block the signals that cause these symptoms can benefit patients.

The researchers examined 12 patients who had stimulating electrodes implanted in their brains between one and three years previously.

“
We think this treatment offers a major step forward but only for a relatively small number of patients
”

The patients were monitored on the hour for two days, during which time they continued to take their normal doses of medication. The stimulators were turned off for one day and switched back on the following day.

Parkinson's Disease Society spokesman

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The study found that patients were able to complete a walking test 13% faster when the stimulator was on. They were also able to complete a finger-tapping test, which examines the slowness in movement associated with Parkinson's, 23% faster.

Previous studies used patient reports to determine the success of this treatment and it was believed the reduction in symptoms was caused because the brain implants improve the effects of levodopa.

However, Dr John Nutt, who headed this study, has suggested the improvements occur because the devices reduce the problems patients experience when the drug is not working.

"The hypothesis has been that the improvement occurs because the body's response to levodopa is prolonged by the stimulation," he said.

"But we saw no evidence of this. Instead, we found that improvement is determined more by the decrease in the amount of disability patients experience when they are in the 'off' state, when the drug is not working."

Approximately 120,000 people in the UK have Parkinson's. It affects approximately 1% of people aged 60 and over, though it can strike younger people and approximately 10,000 people are diagnosed with the disease each year.

While electrical brain stimulation is a relatively new treatment, it is available in some specialist neurological centres in the UK.

A spokesman for the Parkinson's Disease Society said the results of this study were "very encouraging".

But he added: "We think this treatment offers a major step forward but only for a relatively small number of patients.

"There are 120,000 people with Parkinson's but we believe that only between 400 and 500 people a year would benefit from this treatment. That is because Parkinson's affects different patients in different ways," he told BBC News Online.

The Parkinson's Disease Society is carrying out a study in partnership with the Department of Health and the Medical Research Council to determine when electrical brain stimulation is appropriate for patients and for whom.

The study is published in *Neurology*, the journal of the American Academy of Neurology.

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