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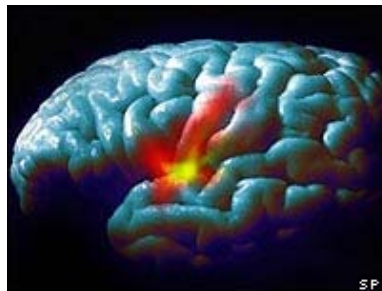
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## Cloning treats mouse Parkinson's

**Therapeutic cloning has been successfully used to treat Parkinson's disease in mice, US researchers say.**



Parkinson's disease affects cells in the brain

The study in *Nature Medicine* provides the best evidence so far that the controversial technique could one day help people with the condition.

The Memorial Sloan-Kettering Cancer Centre team say it is the first time animals have been successfully treated with their own cloned cells.

UK experts said the work was promising and exciting development.

### No rejection

In Parkinson's disease, nerve cells in the part of the brain that controls muscle movement either die or become impaired.

Normally, these cells produce a vital chemical known as dopamine, which allows smooth, co-ordinated function of the body's muscles and movement.

In therapeutic cloning, the nucleus of a cell is inserted into an egg with the nucleus removed.

This cell then develops into an embryo from which stem cells can be harvested and used as a treatment.

In this study, stem cells were developed into dopamine-producing neurons the missing nerve cells in Parkinson's disease.

The mice that received neurons derived from their own clones showed significant signs of improvement.

But when these neurons were grafted into mice that did not genetically match the transplanted cells, the cells did not survive and the mice did not recover.

The researchers say the therapy is promising because, as the

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**“ This is an exciting development, as for the first time, we can see that it may be possible to create a person's own embryonic stem cells to potentially treat their Parkinson's ”**

Dr Kieran Breen, Parkinson's Disease Society

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cells originally came from the animal that was ill, they were not rejected by its immune system.

### 'Great hope'

Scientists are pursuing the use of stem cell therapy for Parkinson's disease because it would allow the replacement of the dead dopamine-producing nerve cells with new, healthy cells.

This should restore the supply of dopamine within the brain and allow it to work normally again.

However, the challenge has been to produce nerve cells which can survive after transplantation.

Dr Kieran Breen, director of research and development at the Parkinson's Disease Society said: "This is an exciting development, as for the first time, we can see that it may be possible to create a person's own embryonic stem cells to potentially treat their Parkinson's.

"Researchers in this area now need to carry out more studies to satisfy safety concerns and to make the process more efficient before these studies are carried out on people living with Parkinson's."

He added: "Stem cell therapy offers great hope for repairing the brain in people with Parkinson's.

"It may ultimately offer a cure, allowing people to lead a life that is free from the symptoms of Parkinson's."

Professor Robin Lovell-Badge, an expert in stem cell research at the National Institute of Medical Research, said this was good research which showed using therapeutic cloning could be beneficial.

"There was a very significant level of recovery.

But he added: "They only studied the mice for 11 weeks afterwards, which is not a huge amount of time to see how persistent the repair would be."

However, the experts said much more research in both animals and humans was needed before the treatment could be offered to people with Parkinson's.

In a separate study, a team from University College London have discovered mutations in a gene which may trigger Parkinson's in people with a family history of the condition.

The finding could provide scientists with a clue as to what causes Parkinson's - and could contribute to the search for new treatments.

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