

Stem cell implants boost monkeys with Parkinson's

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File illustration photo shows embryonic stem cells being microinjected into an embryo. Monkeys suffering from Parkinson's disease show a marked improvement when human embryonic stem cells are implanted in their brains, in what a Japanese researcher said Wednesday was a world first.

Monkeys suffering from Parkinson's disease show a marked improvement when human embryonic stem cells are implanted in their brains, in what a Japanese researcher said Wednesday was a world first.

A team of scientists transplanted the stem cells into four [primates](#) that were suffering from the debilitating disease.

The monkeys all had violent shaking in their limbs -- a classic symptom of Parkinson's disease -- and were unable to control their bodies, but began to show improvements in their motor control after about three

months, Kyoto University associate professor Jun Takahashi told AFP.

About six months after the transplant, the creatures were able to walk around their cages, he said.

"Clear improvements were confirmed in their movement," he said.

Parkinson's disease is a progressive [neurological illness](#) linked to a decrease in dopamine production in the brain. There is currently no medical solution to this drop off in a key neurotransmitter.

The condition, which generally affects older people, gained wider public recognition when Hollywood actor Michael J. Fox revealed he was a sufferer.

Takahashi said at the time of the implant about 35 percent of the stem cells had already grown into dopamine neuron cells, with around 10 percent still alive after a year.

He said he wants to improve the effectiveness of the treatment by increasing the survival rate of dopamine neuron cells to 70 percent.

"The challenge before applying it to a clinical study is to raise the number of dopamine neuron cells and to prevent the development of tumours," he said.

"I would like to make this operation more effective and safe" before clinical trials, Takahashi said.

Takahashi said so far he had used [embryonic stem cells](#), which are harvested from [foetuses](#), but would likely switch to so-called Induced Pluripotent Stem (iPS) cells, which are created from human skin, for the clinical trial.

His team, which has also transplanted iPS cells into monkeys, are now looking to see if the primates with Parkinson's disease show similar improvements in their motor control.

Scientists say the use of [human embryonic stem cells](#) as a treatment for cancer and other diseases holds great promise, but the process has drawn fire from religious conservatives, among others.

Opponents say harvesting the cells, which have the potential to become any cell in the human body, is unethical because it involves the destruction of an embryo.

The Japanese government currently has no guidelines on the use of human stem cells in clinical research.

In October last year, the Court of Justice of the European Union banned the patenting of [stem cells](#) when their extraction causes the destruction of a human embryo, a ruling that could have repercussions on medical research.

Scientists warned that the ruling would damage stem cell research in Europe, while the Catholic church hailed it as a victory for the protection of human life.

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