

Skin cells could help discover cause of Parkinson's disease

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Researchers are applying new stem cell technology to use skin samples to grow the brain cells thought to be responsible for the onset of Parkinson's disease, the UK National Stem Cell Network (UKNSCN) annual science meeting will hear today.

Dr Richard Wade-Martins, head of the Oxford [Parkinson's Disease Centre](#), will explain how he and his team will be gathering data from over 1,000 patients with early stage Parkinson's disease and taking small samples of skin tissue to grow special stem cells - induced [pluripotent stem cells](#) (iPS cells). iPS cells can be generated from accessible tissue such as the skin and then used to generate specific types of cell.

The researchers will use the iPS cells to grow [dopamine neurons](#) - the [brain cells](#) responsible for the production of dopamine, as it is these cells which die in patients with Parkinson's, leading to the onset of the disease.

Dr Wade-Martins explains: "Parkinson's disease is the second most common neurodegenerative disease in the UK and is set to become increasingly common as we live longer. iPS cells provide new and exciting opportunities to grow and study dopamine neurons from patients for the first time. This technology will prove to be extremely important in diseases which affect the brain because of its relative inaccessibility - it's far easier to get a skin sample than a brain biopsy. Once we have neurons from patients we can compare the functioning of cells taken from patients with the disease and those without to better

understand why dopamine neurons die in patients with Parkinson's."

Over the next five years, the researchers funded by the charity Parkinson's UK, will combine their stem cell work with the latest techniques in [molecular genetics](#), protein science and brain imaging to develop ways of detecting the early development of Parkinson's disease in individuals before symptoms arrive.

The £5 million Monument Discovery Award given to Dr Wade-Martins and his team is the largest grant ever awarded by Parkinson's UK.

Dr Kieran Breen, Parkinson's UK Director of Research said: "We are passionate about finding a cure for Parkinson's. This is vital research that will help us better understand the causes of this devastating condition and how it develops and progresses. We hope the work will pave the way for new and better treatments for people with Parkinson's in the future."

Provided by Biotechnology and Biological Sciences Research Council

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