

# Scientists find 5 new Parkinson's genes

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LONDON - Scientists have identified five new genes linked to Parkinson's disease in a large genetic analysis of the illness, according to a new study.

After reviewing nearly eight million possible genetic mutations, researchers pinpointed five genes connected to Parkinson's disease. Previously, six other genes were identified, and experts say there is now increasing proof the degenerative disease is sparked by people's genes.

The discovery doesn't mean there are any new treatments just yet, but experts are optimistic they are getting closer.

"The major common genetic variants for Parkinson's have been found," said Nick Wood, a professor at the Institute of Neurology at University College London, one of the researchers who led the study. "We haven't put together all the pieces of the puzzle yet, but we're not that far off," he said. He predicted a diagnostic test might be ready within a few years.

Until recently, scientists hadn't been sure what caused Parkinson's disease, but assumed environmental factors such as exposure to chemicals or past head injuries were largely to blame.

Scientists analyzed genetic samples from more than 12,000 people with Parkinson's disease and more than 21,000 from the general population in Europe and the U.S. They found people with the highest number of mutations in the 11 genes linked to Parkinson's were two-and-a-half times more likely to develop the disease than people who had the least amount of mutations.

The average person has a 2.5 per cent chance of developing Parkinson's disease in their lifetime, and the risk for people whose close relatives have the illness is about six per cent.

The research was paid for by the Wellcome Trust, the National Institute of Aging and the U.S. Department of Defence. It was published online Wednesday in the medical journal *Lancet*.

Parkinson's is a degenerative brain disease that strikes when brain cells don't make enough of the chemical dopamine. That leads to symptoms including tremors, rigidity and slowness of movement. There are limited treatments and no cure for the disease. It mostly affects people over 50, though younger people, including actor Michael J. Fox, sometimes develop the disease.

Experts said Parkinson's disease was likely the result of a complex interaction between genetics and environmental risk factors.

In an accompanying commentary, scientists said identifying Parkinson's genes could help explain what triggers the disease and one day lead to new treatments.

"There is good reason for optimism that these advances will be translated into direct benefits for our patients," wrote Christine Klein and Andreas Ziegler of the University of Lubeck in Germany.