



Ashkenazi Jewish Heritage and Parkinson's Biology: *Three Things to Know*

Certain factors — such as aging, environmental exposures and genetic links — increase risk of brain disease, such as Parkinson's. Some of these factors are more common in specific populations. People of Ashkenazi Jewish (Eastern European) descent, for example, are more likely to carry genetic changes linked to Parkinson's disease (PD). Here are three things to know about the Parkinson's connection if you're Ashkenazi Jewish.



THE MICHAEL J. FOX FOUNDATION
FOR PARKINSON'S RESEARCH

01

People of Ashkenazi Jewish descent are more likely to carry a LRRK2 gene change.

Genes are inherited bits of information. They direct what we look like, our disease risk, and other aspects of our health. We all have the same set of genes. But depending on our family and heritage, we have different changes in genes. Ashkenazi Jewish people share common ancestry. They may share the same gene changes.

A common Parkinson's gene change — in the LRRK2 gene — is seen more in Ashkenazi Jewish people. More than 25% of Ashkenazi Jewish people with Parkinson's and a family connection to PD carry a LRRK2 gene change.

These gene changes increase risk for PD, but don't guarantee a person will get the disease.

02

People with a LRRK2 gene change may have different Parkinson's biology.

In 2023, Parkinson's scientists made a new test for disease biology. This could help detect and track Parkinson's and the impact of new treatments.

The test measures a key Parkinson's protein (alpha-synuclein) in spinal fluid. In a study, most people with Parkinson's tested positive on the test. Interestingly, many people with Parkinson's and a LRRK2 gene change tested negative on the test. This effect was even stronger in people with LRRK2 and normal smell ability. (Smell loss is a common but not absolute feature of Parkinson's.)

Scientists believe the people with LRRK2 Parkinson's disease may have different biology. Learning more could help develop new treatments and cures for Parkinson's disease.

03

Learning more about LRRK2 Parkinson's biology could drive new treatments.

The Michael J. Fox Foundation's landmark study The Parkinson's Precision Medicine Initiative (PPMI) is researching LRRK2 Parkinson's. Ashkenazi Jewish people diagnosed with Parkinson's in the past seven years can take a genetic test and a smell test. People without Parkinson's can take a smell test.

You can play a role in accelerating better treatments that will benefit everyone with Parkinson's, both with and without a gene change.

➔ Read more about PPMI and find your starting point.

Join the study that's changing everything.

michaeljfox.org/ashkenazi