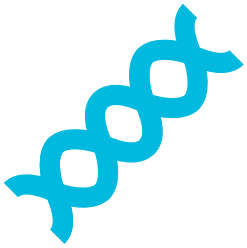
Genetics & Parkinson's



Genetic Testing:

- Empowers you, your healthcare team and your family to make informed health decisions
- Can help you determine if you can participate in clinical trials related to your genes
- May involve costs if outside of a study

Genetic Studies:

- Some offer genetic testing and counseling at no charge
- Results are used to advance research
- May lead to targeted therapies tailored to your genes

Parkinson's disease (PD) involves the loss of brain cells that produce dopamine — a chemical that supports movement, mood and other functions.

While the cause of this cell loss isn't fully understood, scientists believe that genetics, environment and lifestyle all play a role. Studying genetics is a key part of ongoing research to improve treatment and move us closer to a cure.

Quick Facts

- Around 12-15% of people with PD have a known genetic link.
- Genetic factors can increase the risk of developing Parkinson's.
- Participation in genetic studies helps scientists better understand the causes and progression of Parkinson's.

Understanding Genetics

Genetics is the study of how traits such as eye color and height are passed from parents to children. At the center of this process is our DNA, which acts as a cookbook with about 23,000 genes or "recipes" that make us who we are. Each gene gives instructions for making proteins that build and repair the body, support the immune system and perform many other important jobs.

Genes can have changes called variants. Most variants have no effect. Some determine unique features, such as brown eyes. Others affect how proteins work and can increase the chance of health problems. While genetics plays an important role, our health ultimately depends on a combination of genes, lifestyle and environment.

How Genetics Influence Parkinson's

Changes in specific genes, such as *LRRK2*, *GBA* and *SNCA*, can increase the risk of developing Parkinson's or influence how symptoms progress in people already diagnosed.

Researchers are studying how these genetic changes vary among different groups to understand why Parkinson's is more common in certain communities. Understanding these genetic differences can give us clues about why PD varies from person to person.

Resources

Read, Watch & Listen:

- **Parkinson.org/Library** (search "genetics" or "gene")

Learn about ongoing studies:

- **ClinicalTrials.gov**

National Society of Genetic Counselors:

- **AboutGeneticCounselors.com**

Helpline

For answers to your Parkinson's questions, contact our Helpline at **1-800-473-4636** or **Helpline@Parkinson.org**.

We are here for you.

Genetic Testing

Genetic testing may help identify risks for Parkinson's or support more personalized care.

- Testing typically involves a blood or saliva sample to look for changes in DNA or proteins.
- Some tests can be done at home and mailed in, while others require a clinic visit.
- Costs and insurance coverage can vary.

Before testing, talk to your doctor about what it involves and what the results might mean for you and your family. A genetic counselor can help you understand the process and plan next steps.

Parkinson's Foundation Genetic Study

PD GENEration: Powered by the Parkinson's Foundation is a global study offering genetic testing and counseling at no cost to people diagnosed with Parkinson's. Participants receive their results and may choose to be contacted if new information arises. Genetic data is stored securely without personal information and is used worldwide to improve understanding of PD risks and treatment.

You can enroll online and provide a blood sample either at home using a kit or by visiting a study site. By joining, you help advance research and gain insights into your own genetics. Learn more and enroll at **Parkinson.org/PDGENEration**.

Advancing Personalized Care

Studies are exploring treatments for people with changes in specific genes, such as *LRRK2*, *GBA* or *SNCA*. Targeting these genes may lead to more personalized therapies. Knowing your genetic profile can help determine if you qualify for these studies.

Tips for Navigating Genetic Testing & Research

- **Contact our Helpline** with questions about genetic testing or to learn more about our PD GENEration study.
- **Know what to expect** — most people do not test positive for a PD-related genetic change, but every result helps researchers better understand Parkinson's.
- **Stay informed** about ongoing genetic research. Studies such as PD GENEration continue to offer valuable insights into PD.