



Genetic Testing:

- Empowers you, your healthcare team and your family to make informed health decisions.
- Can help you determine if you can participate in studies 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) affects everyone differently. While symptoms can vary, all people with PD experience a gradual loss of brain cells that produce dopamine, a chemical essential for controlling movement and other important body functions.

Why this cell loss happens is not fully understood, but scientists believe it results from a combination of genetic, environmental and lifestyle factors. Understanding the role of genetics in Parkinson's is helping researchers develop new treatments and move closer to a cure.

Quick Facts

- Genetic factors can increase the risk of developing PD.
- 10% to 15% of all people with PD have a genetic tie to Parkinson's.
- Participation in genetic studies helps scientists understand more about the causes and progression of PD.

Understanding Genetics

Genetics is the study of how traits, like eye color and height, are passed down from parents to children. It begins with our DNA, which is like a cookbook containing about 23,000 genes, or "recipes," that shape who we are. Each gene gives instructions for making proteins. These proteins are essential because they help repair our body, support our immune system and perform many other important tasks.

Genes can have changes called variants, which we inherit from our parents. Most variants are harmless, but some can affect how proteins work and increase the risk of health issues. Ultimately, our health is shaped by the combination of our 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 may influence how PD symptoms progress for 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

Explore the genetics behind our global study, PDGENERation: Mapping the Future of Parkinson's Disease at [Parkinson.org/Genetics](https://www.parkinson.org/genetics).

Find out about the latest discoveries and ongoing studies related to genetics and Parkinson's at [ClinicalTrials.gov](https://www.clinicaltrials.gov).

Search for local genetic counselors through the National Society of Genetic Counselors at [AboutGeneticCounselors.com](https://www.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 guide treatment options.

- Testing typically involves analyzing blood or saliva samples to check for changes in DNA or proteins.
- Some tests can be done at home and mailed in, while others require an in-person office visit.
- Costs and insurance coverage can vary.

Before getting genetic testing, talk to your doctor about the process and what the information could mean for you and your family. Genetic counselors can help you know what to expect, navigate any emotions that come up, understand your results and guide next steps.

Parkinson's Foundation Genetic Study

PD GENERation: Mapping the Future of Parkinson's Disease is a global study offering genetic testing and counseling at no cost to people diagnosed with PD. You can enroll online and give a blood sample using an easy at-home kit or visit a participating location.

PD GENERation participants not only help advance research but also receive something back — their test results. The study uses a reliable and secure genetic test to identify changes in established genes linked to PD. You can also choose to have your results reviewed for any new gene variations currently being investigated.

Learn more and enroll at [Parkinson.org/PDGENERation](https://www.parkinson.org/PDGENERation).

Advancing Personalized Care

Current studies are looking into treatments for people with specific changes or variants in genes like *LRRK2*, *GBA* or *SNCA*. Researchers believe that targeting these genes may lead to better, personalized therapies. Understanding your genetics can help you find out if you qualify for these studies.

Tips for Navigating Genetic Testing & Research

- ✓ **Contact our Helpline to ask questions about genetic testing.** You can also learn more about the PD GENERation study.
- ✓ **Know what to expect.** Most people will not test positive for a PD-related genetic change, but researchers need this information to advance our understanding of Parkinson's.
- ✓ **Stay updated about ongoing genetic research.** Studies like PD GENERation continue to offer valuable insights into PD.

