PRKN GENE INFORMATION

PARKINSON'S DISEASE FACT SHEET

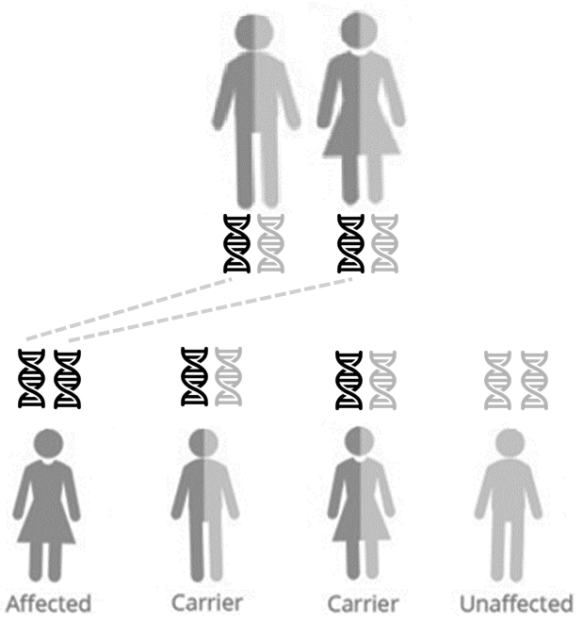
Parkinson's disease is multifactorial in most families; it is likely caused by an interplay of both genetic and environmental factors. A number of genes have been identified as risk factors for Parkinson's disease, with many others likely unknown. This fact sheet outlines basic information about the *PRKN* gene as well as risk to individuals and their relatives. If you have a *PRKN* variant and/or are concerned about your risk, speaking with a genetic counselor can be helpful.

PRKN Variants

PRKN variants are the most common genetic cause of early-onset Parkinson's disease. Gene variants in *PRKN* are associated with features of classic Parkinson's disease, but symptoms are usually slower in progression, and may have less non-motor features.

PRKN variants are inherited in an autosomal recessive pattern (see Figure). This means that a person usually has to inherit two *PRKN* gene variants (one from each parent) to have the disease. Having two variants in the *PRKN* genes almost always causes Parkinson's disease and usually at a much younger age, such as before age 40 years. Individuals with just one *PRKN* gene variant will usually not have Parkinson's disease, however they might have an increased risk to develop Parkinson's disease.

If a person is found to have two *PRKN* gene variants, we can usually assume that one variant came from each of their parents. Individuals with two *PRKN* variants will automatically pass one variant on to each of their children. Both males and females can pass on and inherit these variants.



Research Opportunities

Many research studies are interested in enrolling people with *PRKN* variants. This is true whether or not that person or anyone else in their family has Parkinson's disease. Some studies are trying to understand more about the causes of Parkinson's disease. Other studies are working to develop new treatments. Trials of new medications for people with Parkinson's disease and *PRKN* variants are ongoing.

Various research projects at the Indiana University School of Medicine include genetic testing and genetic counseling for Parkinson's disease. These projects enroll volunteers with and without Parkinson's disease. To learn more, please contact our team at wrd@iu.edu or call 888-830-6299.

References

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