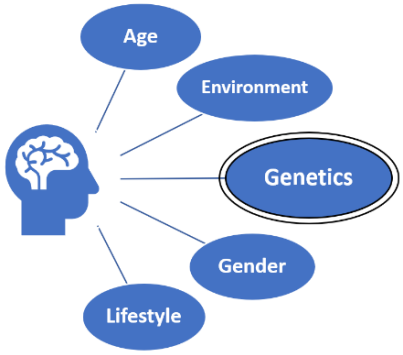
PRKN Gene Information

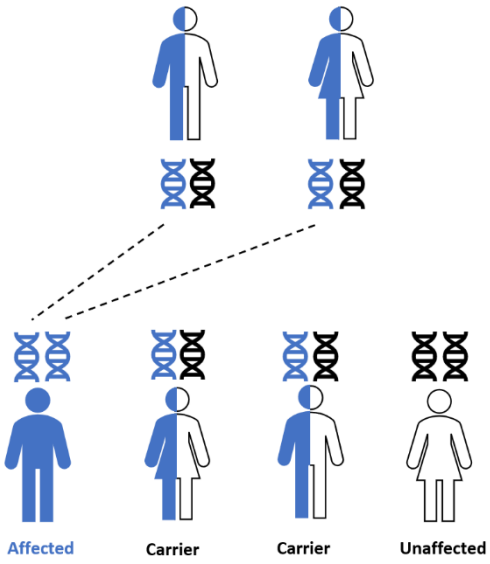
Parkinson's Disease Fact Sheet

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

Gene variants in PRKN 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 has to inherit two gene variants, one from each parent, to have the disease. Having two variants in the PRKN gene almost always causes Parkinson's disease and usually at a much younger age, such as before age 40 years.

If a person has two recessive variants, we can assume that one variant came from each of their parents (see Figure). Individuals with two recessive variants will automatically pass one variant on to each child. Both males and females can pass on and inherit these variants.

Individuals with just one gene variant are sometimes called carriers and will usually not have Parkinson's disease, however it is unlear if they might be at a slightly increased risk.

Research Opportunities

Research studies may be 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.

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 pdnexus@iu.edu or call 888-830-6299.

References

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For additional information about Parkinson's disease genetics and research visit PDNexus.org

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Updated: May 16th, 2022