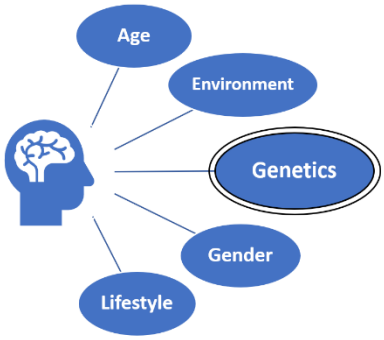
SNCA Gene Information

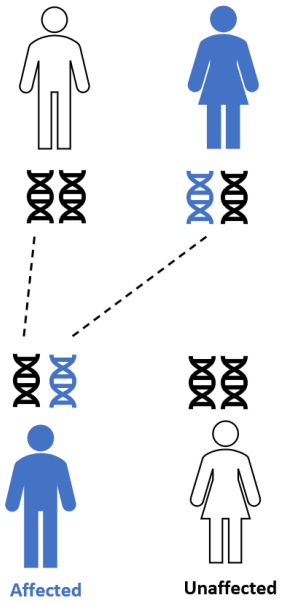
Parkinson's Disease Fact Sheet

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 SNCA gene as well as risk to individuals and their relatives. If you have a SNCA variant and/or are concerned about your risk, speaking with a genetic counselor can be helpful.



SNCA Variants

The SNCA gene provides instructions for making alpha synuclein, a protein with an important role in Parkinson's disease. Different types of variants in SNCA may cause varying degrees of disease severity. Some forms of SNCA-associated Parkinson's disease may have atypical symptoms, and cognitive and psychiatric features may be more common. Other variants are associated with more classic symptoms of Parkinson's disease. Earlier age of onset (before age 50 years) may also be a feature of SNCA variants. In general, SNCA variants are a rare cause of Parkinson's disease.



SNCA variants are inherited in an autosomal dominant fashion (see Figure). This means that a person only needs to inherit one SNCA gene variant to have Parkinson's disease or the associated risk of Parkinson's disease. This also means that both males and females can pass on and inherit the variant. Each child of a person with a SNCA variant has a 50% (or 1 in 2) chance to inherit the variant. Similarly, this individual has a 50% (or 1 in 2) chance to not inherit the variant from their parent. Not everyone with a SNCA variant will develop Parkinson's disease; this is called incomplete penetrance.

Research Opportunities

Many research studies are interested in enrolling people with SNCA 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 SNCA 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 by email 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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