

Key Points

- You have one or two variants in the *FBXO7* gene (please refer to your test report for details).
- *FBXO7* variants have been associated with early-onset Parkinson's disease and other neurological symptoms.
- You should talk about this result with your neurologist to understand what this means for you.

FBXO7

What is *FBXO7*?

FBXO7 is a gene that all people have. A gene is an instruction for our body. When there are two variants in the *FBXO7* (one from each parent), it doesn't work well, causing early-onset Parkinson's disease with or without parkinsonian-pyramidal disease (PPD) and other neurological symptoms. People with two variants in the *FBXO7* gene typically begin experiencing Parkinson's disease symptoms in their early 20s or younger, though less commonly, symptoms can occur as late as the 50s. Some people with *FBXO7* variants will also have pyramidal symptoms, such as abnormal reflexes and tight muscles. They can also have thinking problems. These symptoms can be different for each person.

What does this mean for me?

Depending on your results:

- **If you have one variant**, you usually will not have early-onset Parkinson's disease or PPD, but you are a carrier. (Rarely a second variant may be missed through testing).
- **If you have two variants** (one from each parent), you typically will have early-onset Parkinson's disease, with or without PPD, and this finding could be an explanation for your symptoms.
- You should talk to your neurologist or a movement disorder specialist to understand how this result relates to you and your symptoms.

What does this result mean for my family?

- *FBXO7* variants are inherited, meaning they are passed down in families. Early-onset Parkinson's disease, with or without PPD, happens when a person has two variants in the *FBXO7* gene, one from each parent. This is called recessive inheritance.
- **If you have one variant**, this means each of your close family members (like your children, siblings and parents) has a 50% chance (1 in 2) of having the same *FBXO7* variant and being a carrier. If your partner also has a *FBXO7* variant, your children have a chance to have this form of early-onset Parkinson's disease.
- **If you have two variants** (one from each parent), each of your children will have one variant and will at least be carriers.
- Close family members (like your children, siblings, and parents) may benefit from meeting with a genetic counselor to learn about their risks and genetic testing options.

What should I do next?

- **Tell your neurologist about these results.**
- Talk to your neurologist, movement disorder specialist, or a neurology genetic counselor if you have more questions or concerns.
- Consider sharing these results with your family members.
- Consider participating in additional studies to help researchers better understand the potential link between *FBXO7* variants and Parkinson's disease or its symptoms.

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

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