



Parkinson's Disease



Background and Causes

- Nerve Cell Breakdown
 - Parkinson's Disease is caused by the loss of neurons which release dopamine into the brain, resulting in many different symptoms.
 - Dopamine connects regions of the brain that control smooth movement.
- Very rarely, genetics or environmental surroundings can cause Parkinson's Disease.
- Lewy Bodies
 - These are clumps in the brains of Parkinson's Disease patients.
 - The cause for these is unknown



Risk Factors

- **Age**
 - The older you are, the higher your chance of developing Parkinson's Disease.
- **Hereditary**
 - If there's a long family history, you have a slightly higher risk of developing Parkinson's.
- **Gender**
 - On average, more males develop Parkinson's than females.
- **Toxins**
 - Exposure to chemical toxins slightly increases the risk of developing Parkinson's.



Most Common Symptoms

- Tremor
 - Shaking in hand or fingers, “pill rolling”.
- Rigidity
 - Muscles might stiffen, making movement difficult.
- Akinesia
 - Very slow movement; steps may become shorter, feet may drag.
- Postural Inability
 - Stooped posture, difficulty balancing.
- Speech Impairment
 - Very soft, slurring speech, or hesitation before beginning to speak.



Other Symptoms

- Depression and Emotion Changes
- Difficulty Thinking
- Anxiety
- Dementia
- Sleep Problems
- Fatigue



Diagnosis

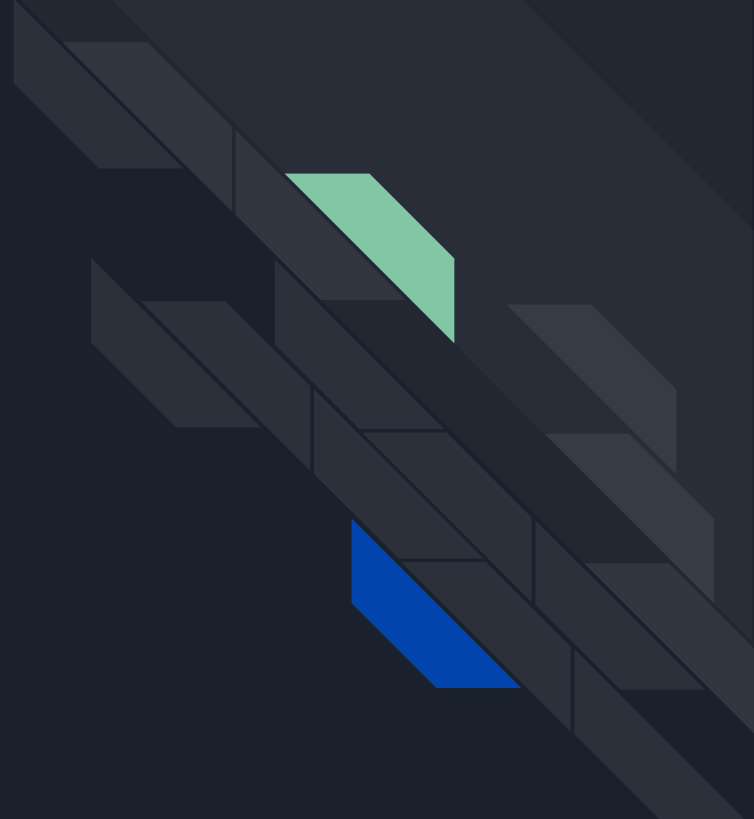
- Imaging tests aren't usually used to diagnose Parkinson's.
- Your doctor may ask you to:
 - Tap your finger and thumb together
 - Rest your hand
 - Relax and be checked for rigidity
- If the only symptom is a tremor, it might be Essential Tremor instead of Parkinson's Disease.



Treatment

- **Levodopa**
 - Levodopa can be converted to dopamine, and cross from one region of the brain to another. It is also called the “precursor to dopamine”.
 - Levodopa helps treat the symptoms of Parkinson’s Disease.
- **Dopamine Agonists**
 - These can act as dopamine, but they can’t be converted into dopamine like Levodopa can.
 - Dopamine Agonists last longer than levodopa, and can work with Levodopa to smooth Levodopa’s effects.
- **MAO-B Inhibitors**
 - These can help stop the breakdown of dopamine in the brain.
- **In some extreme cases, doctors will recommend surgery.**

If you have any
questions, please feel
free to ask.





Sources

Mayo Clinic Staff. *Parkinson's Disease*. Mayo Clinic. 7 July 2015. Web.

A Visual Guide to Parkinson's Disease. Web MD. 2 February 2016. Web.

Parkinson's Disease. Parkinsons.org. Web.