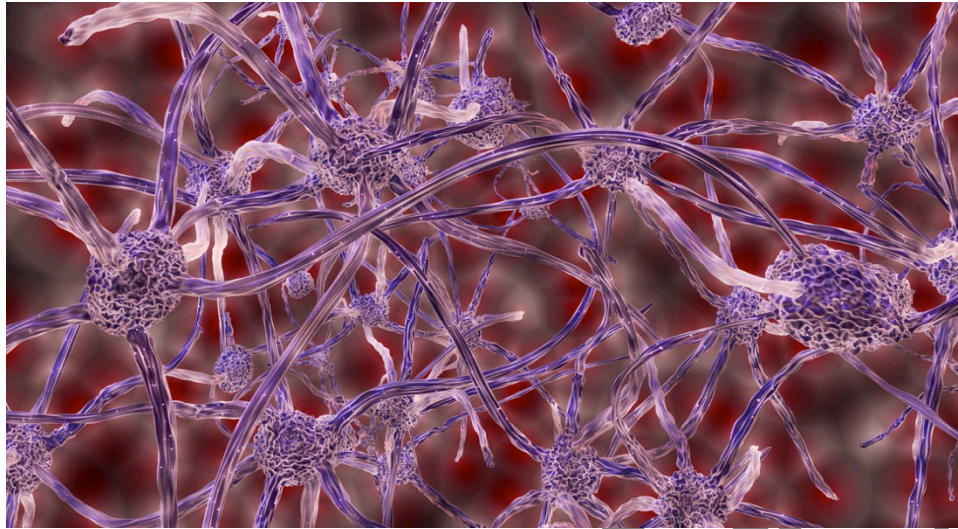


# Parkinson's Disease



## What is Parkinson's disease?

Parkinson's disease is a neurological disorder that mainly affects **movement**. The disorder typically becomes worse over time for the individual, but there are medications and procedures currently available that can reduce the severity of the symptoms. Currently, there are about one million individuals in the U.S. and four million worldwide who are suffering from Parkinson's disease. The symptoms, causes, and future implications of the disease will be examined in this article.

## What are the symptoms?

Although each individual is impacted differently by the disease, the Mayo Clinic notes possible side effects to include tremors in the limbs (arms and legs); rigid muscles; stooped posture; impaired balance; a decrease in automatic movements such as blinking, mood expression, swinging arms while walking, etc.; changes in speech, such as slurring; difficulty writing; slowed movement; depression; anxiety; changes in sense of smell; weight loss; constipation, and other complications.

*Catherine Metzger*  
*13 Octobre 1869*

Example of writing by a patient with Parkinson's

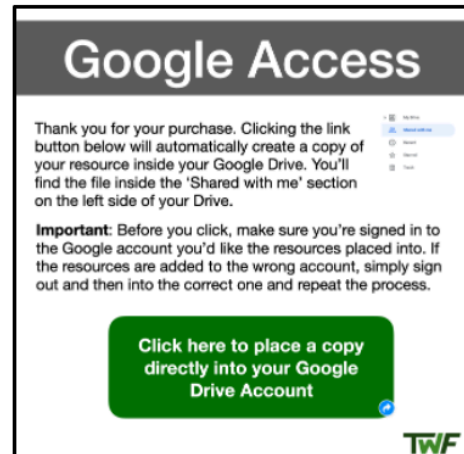
How does someone get Parkinson's?

# Reading Sample



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The substantia nigra may not be the only area of the brain impacted by Parkinson's disease. **Lewy Bodies**, which contain clumps of the protein alpha-synuclein, are a signature sign of Parkinson's. Lewy Bodies are found not only in the substantia nigra and midbrain, but also in the **olfactory bulb**, where information about odors is processed. This could explain the changes in sense of smell that occurs in patients. Dopamine is also present in the intestines, which might lead to the gastrointestinal symptoms experienced. Although alpha-synuclein has recently become a major focus for research, it is still unknown why these changes are experienced in the brains of those with Parkinson's.

## Reading Sample



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**Deep brain stimulation** is a procedure sometimes used to treat Parkinson's. Electrodes release electrical signals directly into the brain through an implant. These electrical pulses have been shown to decrease symptoms, however, this procedure does not always work and it does not prevent Parkinson's disease from progressing. It is simply used to alleviate some of the symptoms.

### Parkinson's disease facts:

- Men are affected about 1.5 to 2 times more often than women
- Most people who develop Parkinson's disease are older than 60 years of age
- The life expectancy of Parkinson's patients is between 10 to 20 years after the diagnosis
- Parkinson's is a progressive disease, meaning that symptoms get worse over time

## Reading Comprehension Questions

1. What
2. About
3. What
4. What is a neurotransmitter? What purposes does dopamine serve?
5. What area of the brain is believed to be most affected by Parkinson's disease? What does this area of the brain partly control?
6. Medications
7. What is deep

## Extension Questions

Watch the video to answer question 8. You can access the video through the link or QR code below.



<https://goo.gl/EaOUjv>

8. What
9. A deficiency of dopamine may lead to Parkinson's disease. What can an excess of dopamine lead to? Do some research on dopamine's wide range of effects to properly answer this question.

# Reading Sample



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