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Parkinson Disease

What is Parkinson Disease?

It affects your ability to control how you move.

Dopamine is a chemical produced in the brain that brain cells use to help body movement. In Parkinson disease the nerve cells are damaged, causing dopamine levels to drop, which causes a variety of movement problems.

(See Fig. 1)

Parkinson disease is a progressive disease, meaning symptoms worsen slowly over time; However, symptoms and the rate and course of progression vary widely.

Symptoms are rarely seen in people under thirty and usually begin after age 50.

It is not a hereditary disease, but more than one person in a family may have it.

DOPAMINE LEVELS IN A NORMAL NEURON VS. A PARKINSON'S AFFECTED NEURON

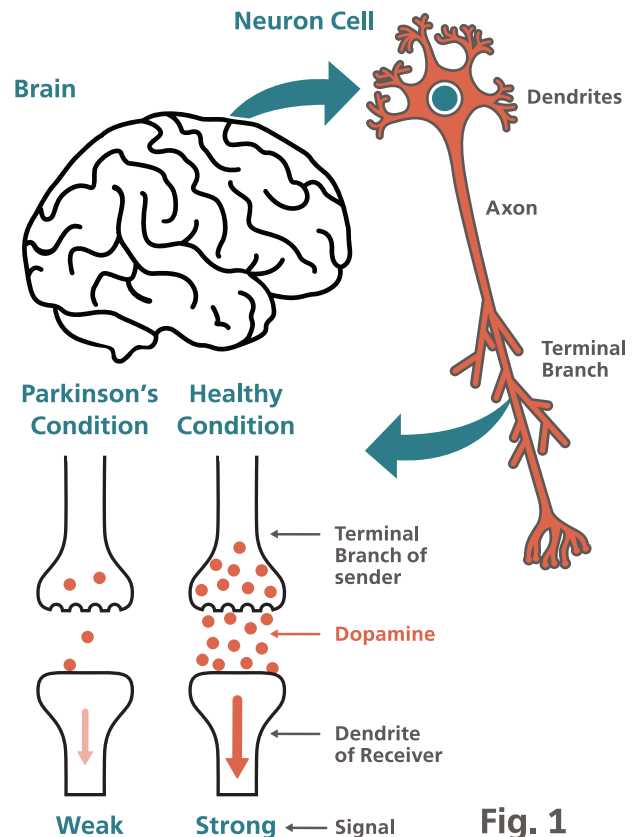


Fig. 1

Parkinson Disease | Symptoms

NON-MOTOR DISORDERS CAUSED BY PARKINSON DISEASE



Depression
Sleep disorders
Weight loss



Orthostatic hypotension



Difficulty speaking
Excessive salivation
Difficulty in swallowing
Respiratory problems



Bowing of the shoulders
Swelling of the feet



Increased sweating



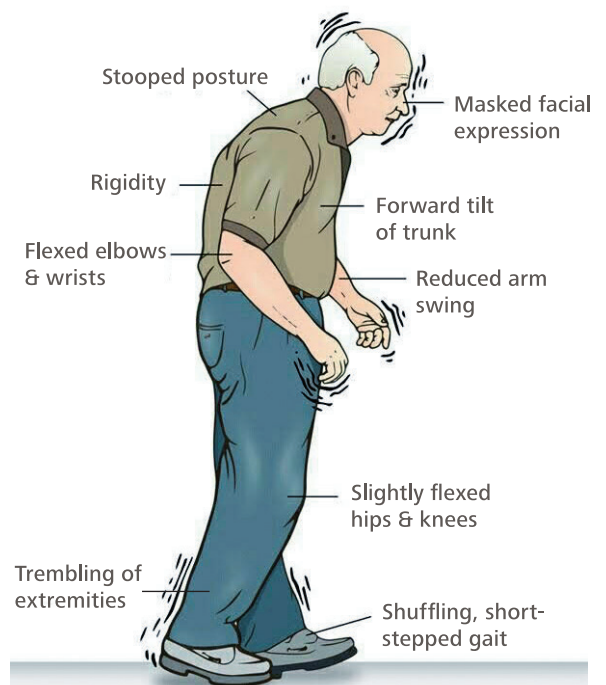
Constipation
Micturition disorders
Sexual problems



Forced closure of the eyelids (Blepharospasm)

Most people think of shaking or tremors when they think of Parkinson disease but up to 15% of people with Parkinson disease do not have tremors. Tremors can occur in the hands, arms, legs, jaw or head. In addition to tremor, symptoms include stiff muscles (rigidity), slow movement (bradykinesia), a fixed facial expression, decreased arm swing, shuffling gait, freezing while walking or problems with balance. Speech difficulties including low voice volume, muffled speech or speaking too fast or too slow. Handwriting may become smaller and/or slower or tremor can make it difficult to read. There may be difficulties with drooling or swallowing. Depression, anxiety, hallucinations, constipation, urinary problems or sexual dysfunction can also be related to Parkinson disease. Anxiety or nervousness can increase symptoms, especially tremor.

TYPICAL APPEARANCE OF PARKINSON DISEASE



Parkinson Disease | Additional Terms

Terms Related to Parkinson Disease

Akinesia: Inability to move, “freezing” or difficulty beginning a body movement

Ataxia: Difficulty with walking and balance

Cogwheel Rigidity: The arm or leg “catches” during movement, resembling the way a cog catches in a wheel

Dysarthria: Difficulty forming or pronouncing words

Dysphagia: Difficulty swallowing

Festination: Short, shuffling steps

Freezing: Refers to those times when it is impossible for you to start or continue walking (feet feel glued to the floor)

Hypophonia: Softness of voice

Mask-Like Faces or Hypomimia: Expressionless face, resulting in part from rigidity of face muscles

Micrographia: A small cramped handwriting resulting from slowness of movement and rigidity

Postural instability: Lack of balance or unsteadiness while standing or changing positions

Wearing off: Loss of effectiveness of Parkinson medication between doses

Terms Related to Medications

Anticholinergics: Medications used to treat symptoms such as rigidity and tremor

Carbidopa: a drug used in combination with levodopa to prevent its breakdown before it reaches the brain

COMT Inhibitors: Medication used with levodopa that helps improve the delivery of levodopa to the brain

Dopamine Agonist: A drug that mimics the effects of dopamine by directly stimulating the dopamine receptors in the brain

Levodopa: A drug that, when broken down in the brain, helps to replace the dopamine lost in Parkinson disease

MAO Inhibitors: A class of medication that slows the breakdown of dopamine in the brain

Parkinson Disease | Treatment & Resources

Diagnosing Parkinson Disease

Other diseases can cause similar symptoms so medical evaluation is important. X-ray studies, MRI or lab work may be performed to rule out other causes for symptoms but **there are no tests that can diagnose Parkinson disease.**

**A DIAGNOSIS OF
PARKINSON DISEASE
IS BASED ON
A MEDICAL HISTORY
AND A THOROUGH
NEUROLOGICAL
EXAMINATION.**

Treatments

There is no known cure for Parkinson disease but research continues.

If symptoms do not interfere with daily activities no treatment may be needed. For symptoms that do interfere with activities, one or more medicines may be used to manage symptoms. Some medicines can cause side effects such as involuntary movements (dyskinesias) or cramping sensations (dystonia) as the medicine level in the body fluctuates. Symptoms sometimes worsen as time for the next dose approaches. Brain surgery or deep brain stimulation also may be used to control symptoms in some people.

Exercise such as Yoga or Tai Chi to improve balance and flexibility and regulate your breathing can relieve some of the symptoms. Exercises for mobility help maintain walking ability. Stretching exercises improve flexibility and fight the tendency for stooped posture and strengthening exercises help maintain mobility and function even as slowness and stiffness progress. Lifestyle changes such as getting enough sleeping and eating a balanced diet are also important.

Resources

We encourage all patients to access information and learn more about their illness. For additional information you may visit our website www.cnmri.com/parkinsons-disease/