

Parkinson's disease (PD) is a progressive disorder of the nervous system that causes changes in movement, balance, thinking, and mood. Movement symptoms of PD typically begin on one side of the body and gradually spread to the other side. All symptoms of PD become worse over time.

Symptoms

Movement Symptoms

- Tremor—involuntary trembling or shaking, often in the hands or feet
- Slowness of movement
- Getting stuck in place when walking
- Muscle stiffness
- Balance problems
- Stooped posture
- Swallowing problems
- Reduced facial expression
- Voice changes, including low volume, less vocal range, and trouble saying some words

Cognitive or Thinking Symptoms

- Reduced thinking speed
- Inattention
- Memory loss
- Impaired spatial (3D) skills
- Trouble problem-solving and multi-tasking

Significant cognitive impairment that interferes with daily living is known as dementia. Dementia affects about 20-30% of people with Parkinson's disease.

Mood and Behavior Symptoms

- Depression
- Loss of interest in life activities and social interaction (called apathy)
- Anxiety
- Trouble understanding what is real and what is not
- Changes in sleep

Symptoms Related to Body Functions

- Sudden lowering of blood pressure
- Urinary urgency or incontinence
- Constipation
- Sexual dysfunction
- Loss of sense of smell

Causes

Parkinson's disease is caused by a patient's genes and factors outside of themselves called environmental factors. Together, genes and environmental factors cause a gradual loss of brain cells in a part of the brain known as the *substantia nigra*. These cells produce a chemical called dopamine, which helps control movement, mood, and thinking. When the level of dopamine drops below a critical level, the symptoms of Parkinson's disease appear.

Risk Factors

- Age over 60 years
- Male sex
- Inherited genes
- A previous brain injury or exposure to toxins

Common Diagnostic Tests

A diagnosis of PD usually begins with an appointment to see a neurologist. The neurologist asks questions about the patient's symptoms. They also examine the patient to test their walking ability, balance, muscle strength, and muscle stiffness. The neurologist may also order a special kind of brain imaging called a DaT scan. A DaT scan can show how well the dopamine system is functioning.

Patients may also be referred for neuropsychological testing to show how thinking may be impaired. Neuropsychological testing consists of pencil-and-paper tests administered by a doctor. The results help the doctor see patterns in a person's thinking. These patterns can show if a person's thinking changes are typical for PD or if they may be due to other causes. The tests also provide a baseline for the patient's cognitive and emotional skills so that the doctor can compare changes in these skills over time. After testing, the neuro-psychologist will recommend care that is specific to the patient, including resources to improve overall quality of life.

Treatment

There is no cure for Parkinson's disease. However, it can be treated to reduce symptoms. Medicines are the main form of treatment. The medicine works by helping to counteract the low amount of dopamine in the brain.

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Other medicines can either block the breakdown of dopamine or copy its effects.

Important Medicine Guidelines

- Take medicines exactly as prescribed by your doctor, and do not skip or postpone doses. Set an alarm for reminders, if needed.
- Refill your prescription at least 48 hours before you run out of your medicine. Inform your doctor if you encounter any side effects such as dizziness, poor appetite, diarrhea, dry mouth, and forgetfulness or confusion.
- Take extra medicine with you when you travel in case something happens that you do not expect. Keep it in your carry-on luggage.

If the medicines are not effective, a surgical method known as deep brain stimulation (DBS) may be an option.

Suggestions for Patients

- Stay mentally active. Participate in enjoyable activities, attend cultural events, read, exercise, and get together with your friends and family. These activities and new learning are vital cornerstones of cognitive health.
- Organize your surroundings. Put things in a particular place and always return them there. Putting things in their place reduces stress. It is helpful if you begin to experience changes in your memory.
- Keep to a routine as much as possible (for example, take your medicine at the same time every day). Consistent habits are important if you are having problems with your memory.

Suggestions for Caregivers

- Connecting with other caregivers may help you better deal with difficult emotions. It can also help you find out about resources that could benefit your loved one.
- Keep a record of your loved one's medicines, dietary restrictions, and other important information. This record will help other caregivers take better care of your loved one when you are not there. It will also help you when preparing for medical appointments.
- Although it is important to be positive and hopeful, it is also important to maintain realistic communications with your loved one. Make time to talk about how life has changed for each of you. Focus on discussing the "new normal" as opposed to a "return to normal."

Resources

Additional resources for patients and caregivers, such as educational materials, support groups, and more, can be found below.

American Parkinson Disease Association, Arizona chapter

www.apdaarizona.org

Parkinson's Foundation

www.parkinson.org

Muhammad Ali Parkinson Center at Barrow Neurological Institute

www.barrowneuro.org/get-to-know-barrow/centers-programs/muhammad-ali-parkinson-center

Area Agency on Aging

www.aaaphx.org

Ability 360

www.ability360.org

All Neuro Caregiver Support Group

114 W. Thomas Rd.
Phoenix, AZ 85013
(602) 406-6688

Family Caregiver Alliance

www.caregiver.org

Caregiver Action Network

www.caregiveraction.org

Arizona Caregiver Coalition

www.azcaregiver.org

Lotsa Helping Hands

www.lotsahelpinghands.com