



# Understanding Parkinson's Disease



Todd, diagnosed in 2006.

[www.lakareol.com](http://www.lakareol.com)



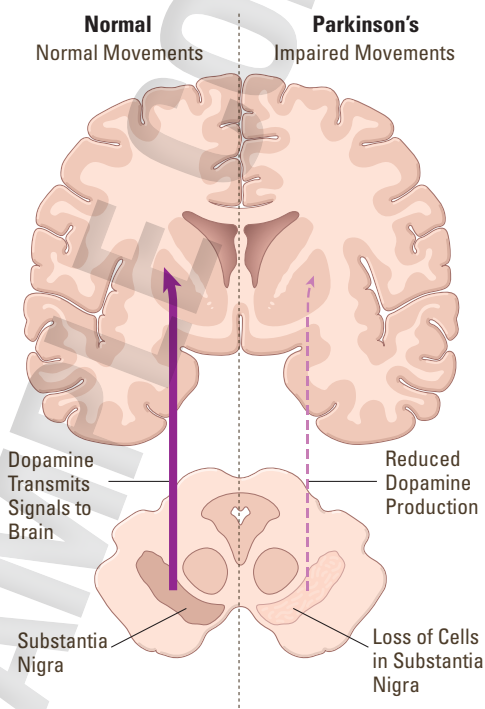
## What Is Parkinson's Disease?

Parkinson's disease (PD) is a movement disorder. In people with PD, a vital chemical in the brain called dopamine is gradually reduced. This brings on symptoms of tremor, slowness in movement, stiff limbs, and walking or balance problems. PD progresses slowly. Many treatments can reduce the symptoms and improve quality of life. PD is common. Each year about 50,000 people are diagnosed with PD. An estimated 4 million to 6 million people worldwide have the disease.

## What Causes Parkinson's Disease?

The cause of PD is still unknown. Researchers think that both genes and environment may play a role. The disorder is due to a loss of nerve cells in an area deep within the brain called the substantia nigra. This area produces the chemical dopamine. Dopamine helps send signals within the brain. Without the right amount of dopamine, movement can be impaired.

### Normal Brain Compared to Brain with Parkinson's Disease



## What Are the Symptoms?

The main symptoms of PD are:

- Rigidity, or stiffness, in arms and legs
- Tremor that is often most noticeable when the affected limb is at rest
- Poor balance and coordination
- Bradykinesia, or slowness in starting movement, which may lead to less facial expression, changes in speaking and voice quality, shuffling gait, smaller handwriting, or trouble with fine finger movements, such as buttoning a shirt

Symptoms vary from person to person. They usually appear gradually.

## How Is Parkinson's Disease Diagnosed?

No laboratory test or brain scan can definitively diagnose PD. Your physician will make a diagnosis based on all of your symptoms and your neurologic examination. It is vital to be diagnosed by a physician experienced in treating the disorder. Neurologists are physicians who can make a diagnosis.

### Did you know?

Neurologists are medical doctors who specialize in disorders of the brain and nerves. They are the specialists who most often diagnose and treat people with PD.

## **What Are the Treatment Options?**

Much research is currently focused on finding treatments that slow or stop PD. Although no medication currently exists that can do this, treatments are available to help you maximize your functioning. The treatments available today have been proven to relieve bothersome symptoms of the disease and improve everyday function. There is no standard or “best” treatment for PD. People can have a range of symptoms. You will need to work with your neurologist to find the treatment that is the best fit for your needs.

### **Medications**

No currently available medication has been adequately proven to slow the progression of PD. But many medications can control symptoms. A neurologist will prescribe medications to manage your symptoms, but it may take time and patience to identify the medicine and dosage that works best for you. These medications include milder drugs such as selegiline, rasagiline, and amantadine. More potent drugs include levodopa and the dopamine agonists, including pramipexole and ropinirole. Some medicines are used in combination with levodopa. These include rasagiline, selegiline, entacapone, and tolcapone. Side effects can occur. They may include nausea, vomiting, and lightheadedness. Restlessness, sleepiness, bad dreams, and hallucinations can also occur. Some drugs may cause changes in behavior, such as obsessive gambling or shopping. Changing the dosage or discontinuing certain drugs usually improves these side effects. Because PD can change over time, it is important to have regular evaluations so that medications can be adjusted to address changing symptoms.

### **Deep Brain Stimulation**

The main non-drug treatment for PD is deep brain stimulation. Tiny electrodes are surgically implanted in the brain. The electrodes are connected to a small control unit implanted under the skin in the upper chest. Deep brain stimulation is an option for only about 10 percent to 20 percent of people with PD. Your neurologist can tell you if this treatment might be helpful for you.

In addition to movement problems, PD can affect other functions. Some people experience problems with depression, anxiety, apathy, memory, hallucinations, sleep, pain, speech, drooling, urinating, or constipation. Treatments for these non-motor problems are available. Talk to your neurologist about any of these problems.

## **Living with Parkinson's Disease**

Many find that lifestyle changes can help control their symptoms. Eating a well-balanced diet helps maintain health and strength. Exercise has been shown to improve the symptoms of PD. It helps maintain muscle tone and strength and also improves mobility. Swimming and walking are especially helpful. Ask your physician to work with you to develop an exercise regimen. Eating healthy foods, staying active, and exercising can help you maintain a good quality of life.

Physical therapy may also be beneficial. For people who develop speech problems, speech therapy may be helpful.

Support groups are a source of help, comfort, and information. You can ask questions, share stories, and form friendships with people who understand. Ask your neurologist about support groups in your area or see **Resources** for organizations to contact.

## **Partnering with Your Neurologist**

To provide the best care, your neurologist needs to know all about your symptoms and medical history. Likewise, you need to get answers to your questions. Keeping a notebook about your condition and bringing a few well-organized questions to your appointments can be helpful.

# For Family and Friends

PD takes a toll on the main caregiver, too. The effects can be both physically and emotionally exhausting. If you are caring for a family member or friend with PD, take care of yourself, as well. Avoid the feeling that you have to do it all yourself. Get help from family, friends, and professionals. There are many support groups available for caregivers. See **Resources** for organizations to contact.

## Help Us Cure Brain Disease

### Make a Donation to Research

The American Brain Foundation supports vital research and education to discover causes, improved treatments, and cures for brain and other nervous system diseases. To learn more or to make a donation to support research, visit [www.CureBrainDisease.org](http://www.CureBrainDisease.org).

### Make Your Voice Heard

To keep research advancing toward future cures and treatments for brain disease, it is important for people affected by neurologic disorders to advocate for more research funding. Contact your members of Congress and ask them to support neurology research by increasing funding for the National Institutes of Health (NIH). Look up your Congressional representatives at [www.senate.gov](http://www.senate.gov) and [www.house.gov](http://www.house.gov). Your voice can make a difference.

### Take Part in Research

People are needed for clinical trials that can help find new treatments for neurologic disorders. Clinical trials are research studies. They help ensure that new drugs are both safe and effective. Ask your neurologist how to volunteer for a clinical trial. You can also find trials through patient organizations or the American Academy of Neurology website at [www.aan.com/view/clinicaltrials](http://www.aan.com/view/clinicaltrials).

## Resources

### **American Academy of Neurology**

[www.aan.com/patients](http://www.aan.com/patients)

(800) 879-1960

The American Academy of Neurology website for patients and caregivers offers a wealth of articles, information about events and resources, and links to support groups, clinical trial information, and more.

### **Neurology Now® magazine**

[www.neurologynow.com](http://www.neurologynow.com)

(800) 879-1960

Free magazine for patients and caregivers, courtesy of the American Academy of Neurology. Stories about people living with neurologic disorders, the latest information on resources and treatments, and more.

### ***Navigating Life with Parkinson's Disease***

A volume from the American Academy of Neurology's Neurology Now Books™ series published with Oxford University Press is an in-depth resource for patients and caregivers living with Parkinson's disease. Published summer 2012.

### **Parkinson's Disease: A Guide for Patients and Families**

[www.aan.com/patients](http://www.aan.com/patients)

(800) 879-1960

Free DVD and guidebook from the Foundation for the American Academy of Neurology for people who are newly diagnosed.

### **American Parkinson Disease Association, Inc.**

[www.apdaparkinson.org](http://www.apdaparkinson.org)

(800) 223-2732

### **The Michael J. Fox Foundation for Parkinson's Research**

[www.michaeljfox.org](http://www.michaeljfox.org)

(800) 708-7644

### **National Parkinson Foundation, Inc.**

[www.parkinson.org](http://www.parkinson.org)

(800) 4PD-INFO (473-4636)

### **Parkinson's Action Network**

[www.parkinsonsaction.org](http://www.parkinsonsaction.org)

(800) 850-4726

### **Parkinson Alliance**

[www.parkinsonalliance.org](http://www.parkinsonalliance.org)

(800) 579-8440

### **Parkinson's Disease Foundation**

[www.pdf.org](http://www.pdf.org)

(800) 457-6676

### **WE MOVE**

[www.wemove.org](http://www.wemove.org)

(347) 843-6132



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*Cover photo by Todd Bischoff*

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