

Treatments for Parkinson's and Parkinsonism

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Updated on May 03, 2021

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Parkinson's disease is a movement disorder that causes motor symptoms such as stiffness, bradykinesia (slowness), resting tremor, and postural instability that can lead to falls. In people who have symptoms of Parkinson's, but the cause is unknown, the condition may be referred to as [parkinsonism](#). There is at present no cure for Parkinson's, and no treatments have been proven to change the course of the disease. However, many people with Parkinson's can improve their symptoms and quality of life with effective treatment options.

Symptoms and severity can vary widely between individuals with parkinsonism. There is no standard treatment for Parkinson's. Guidelines for Parkinson's treatments are based on what [symptoms](#) a person has, the severity of the symptoms, how long they have had Parkinson's, which [type](#) and [stage](#) of Parkinson's they have, tolerance of side effects, the age of the person, and any other health conditions they have or medications they use. Some treatments are highly effective for one type of Parkinson's, but ineffective for others. In most people, medications gradually lose their effectiveness as the disease progresses.

Medications for Parkinson's

In Parkinson's, the brain cells that produce a neurotransmitter — a chemical that helps nerves communicate — called dopamine begin to shrink and die. With too little dopamine, the brain cannot facilitate movement as well. Researchers believe parkinsonian symptoms begin when the level of dopamine falls to about half of normal levels. Levels of other neurotransmitters rise, trying to compensate for the lack of dopamine, and this results in more dysfunction.

Many medications for parkinsonism are aimed at improving motor symptoms by raising levels of dopamine, replicating the effects of dopamine, or controlling levels of other neurotransmitters. Other medications are taken to treat side effects of Parkinson's treatments, psychotic symptoms, or low blood pressure that leads to falls soon after standing.

Most Parkinson's medications need to be carefully timed on a daily schedule around meals, bedtime, and waking. Correctly timing medications ensures the most

effectiveness, avoids “off” times when symptoms worsen, and avoids dangerous interactions with food or other medications. There are many mobile applications available to track medication timing.

Many Parkinson’s medications can cause serious withdrawal symptoms if stopped suddenly. Other drugs must be out of your system for weeks before you start another type of medication. If you want to stop or change medications, always discuss a plan with your doctor for tapering off.

Dopaminergic Medications

The first drugs offered to many people with Parkinson’s are dopaminergic drugs — drugs that work by influencing dopamine levels. Dopaminergic drugs include the combination medication [Levodopa/Carbidopa](#) (sold under the brand names [Sinemet](#), [Parcopa](#), and [Rytary](#)). Levodopa/Carbidopa is usually taken orally. If Levodopa/Carbidopa is working, but the person still has “off” hours when symptoms are more pronounced, the doctor may recommend [Duopa](#), a system that infuses Levodopa/Carbidopa directly into the small intestine via a small, battery-powered pump.

These drugs eventually become less effective and wear off sooner, resulting in “off” time. When Levodopa/Carbidopa begins to lose effectiveness, some people switch to [Stalevo](#) (Levodopa/Carbidopa/Entacapone), which adds a third drug to the combination. Entacapone, sold separately under the brand [Comtan](#), is a catechol-O-methyltransferase (COMT) inhibitor. Entacapone is believed to work by increasing the amount of Levodopa that reaches the brain, making Levodopa effective at significantly lower doses. [Tasmar](#) (Tolcapone) is another COMT inhibitor. COMT inhibitors can cause liver damage and worsen side effects of Levodopa.

Over the long term, Levodopa therapy causes many people to develop dyskinesia — involuntary swaying, writhing, or head-bobbing movements — as a side effect. Amantadine, sold under the brand names [Symmetrel](#) and [Gocovri](#), may be prescribed to treat dyskinesia. Amantadine is classified as an antiviral and anti-Parkinsonian drug. It is believed that Amantadine works by increasing the amount of dopamine available in the brain.

Some people also develop impulsive or compulsive behaviors — gambling, shopping, or sexual activities — abnormal to their usual habits and personality. Side effects become more likely and worsen with higher dosages. Due to these serious side effects, people with Parkinson’s may choose to delay starting Levodopa until motor symptoms begin to disrupt their daily activities.

Dopamine agonists may be given alone or in combination with Levodopa/Carbidopa. Dopamine agonists are believed to work by making brain cells more receptive to dopamine. The dopamine agonist class includes oral drugs [Apokyn](#) (Apomorphine), [Mirapex](#) and [Mirapex ER](#) (Pramipexole), and Requip (Ropinirole). Neupro (Rotigotine) is administered as a skin patch.

Serious side effects of dopamine agonists can include dizziness, fainting, and increased risk for heart problems.

When dopamine levels drop, levels of another neurotransmitter called acetylcholine rise and cause additional symptoms. Anticholinergics such as [trihexyphenidyl](#) and [Cogentin](#) (Benztropine mesylate) are believed to work by regulating levels of acetylcholine in the brain. Anticholinergics can cause or worsen memory problems and constipation.

Early in the course of Parkinson's, some people take medications from a class of antidepressant drugs called monoamine oxidase inhibitors (MAOIs). MAOIs are believed to work by preventing the breakdown of dopamine in the brain, thereby increasing the amount of dopamine available. MAOIs are somewhat effective at treating Parkinson's symptoms, and some may help protect the brain and slow the progress of Parkinson's disease. MAOIs include [Azilect](#) (Rasagiline), [Xadago](#) (Safinamide), and [Selegiline](#), sold under the brand names [Eldepryl](#) and [Zelapar](#). MAOIs can worsen side effects caused by Levodopa.

Symptom Management Medications

[Exelon](#) (Rivastigmine) is an acetylcholinesterase inhibitor. Exelon is believed to work by increasing the amount of a neurotransmitter called acetylcholine in the brain.

[Northera](#) (Droxidopa) treats orthostatic hypotension (dizziness upon standing up) in people with Parkinson's disease.

Psychotic symptoms such as hallucinations, delusions, and paranoia may be caused by Parkinson's or medications used to treat it. Antipsychotics such as [Seroquel](#) (Quetiapine) and [Nuplazid](#) (Pimavanserin) may be prescribed to reduce psychotic symptoms. Antipsychotics are believed to work by interfering with serotonin receptors in the brain. Unfortunately, some antipsychotics can worsen Parkinson's symptoms.

Some people with Parkinson's use [medical marijuana](#) to treat symptoms including pain, mood problems, and sleep disorders. Depending on your symptoms, one strain of medical cannabis may provide more benefit than another.

Depression and anxiety are common in Parkinson's, as in all chronic conditions. Some people take antidepressants to improve their mood and outlook. Work with your doctor to choose an antidepressant that will not interact with Parkinson's medications or other drugs you take.

Deep Brain Stimulation (DBS)

For those whose motor symptoms are debilitating and cannot be controlled with medications, or whose side effects from medications are severe, [deep brain stimulation](#)

[\(DBS\)](#) may be an option. Your neurologist will perform extensive testing to find out whether you are a good candidate for DBS. You and your doctor should decide together whether DBS may be right for you.

DBS involves the implantation of a three-part device to block electrical signals that cause tremors and other motor symptoms of Parkinson's. DBS is implanted in two different surgeries. The first surgery is usually performed while you are awake, with a local anesthetic to numb your scalp. The first surgery will take three to six hours. You can expect to stay in the hospital for two to three days after this surgery. The second surgery will happen about a week later. You will be under general anesthetic for this surgery, which will involve placing a pulse generator device containing batteries on your chest wall. You will likely spend less than 24 hours in the hospital after the second surgery. It may take as long as six months of adjusting your DBS settings before you experience benefits from the surgery.

DBS surgery may not be successful in controlling your motor symptoms. Any surgery carries risks including blood clots, blood loss, infection, breathing problems, reactions to medication, and heart attack or stroke during the surgery. Rarely, DBS surgery can cause seizures.

Can Exercise Help People With Parkinson's?

Exercise has been proven in multiple studies to be highly beneficial for people with Parkinson's. A regular exercise regimen can reduce Parkinson's symptoms such as tremor, gait, coordination, flexibility, and weak grip strength. Exercise might protect your brain from disease progression. Regular exercise can help you avoid falls and recover more quickly. Physical exercise can increase strength, promote healthy weight, stave off heart disease and osteoporosis, and improve your mood and self-esteem.

People with any stage or severity of Parkinson's disease can benefit from exercise. Doctors and researchers agree that the more exercise you do, the more benefit you will receive from the activity. Research also indicates that the more intensely you exercise, the better.

Read more about [the benefits of exercise](#) for people with Parkinson's.

Can Diet Help People With Parkinson's?

Like everyone else, people with Parkinson's feel their best when they consistently eat a healthy, balanced diet. There is no specific diet for Parkinson's but following certain guidelines can ensure that your medications work their best, minimize the side effects of certain drugs, and lower your risk of developing other conditions. Some nutrients may offer neuroprotective benefits and help you preserve function and slow decline associated with Parkinson's. A balanced, nutritious diet can also help maintain a healthy

weight and lower the risk for developing dangerous chronic conditions such as diabetes, osteoporosis, and heart disease.

If you are taking Levodopa/Carbidopa, it is important to time your intake of foods rich in protein. Protein can delay or diminish the effects of Levodopa/Carbidopa, so it is best to eat mostly carbohydrates (grains, vegetables, and fruit) during the day and reserve protein-rich foods for dinner.

If you are taking a monoamine oxidase inhibitor (MAOIs) such as [Azilect](#), [Eldepryl](#), or [Zelapar](#), limit your intake of foods that contain high amounts of tyramine. Foods such as cheese, aged meat, smoked fish, dry sausages, sauerkraut, miso, or other fermented or aged products contain tyramine and can contribute to high blood pressure in those taking MAOIs.

Many Parkinson's medications can cause constipation. To prevent constipation, be sure to eat plenty of dietary fiber and drink six to eight 8-ounce glasses of water every day.

Antioxidants and phytochemicals are nutrients that might help prevent cancer and reduce inflammation. Some studies indicate that antioxidants and phytochemicals may help slow the progression of Parkinson's. Fresh fruits and vegetables are packed with these nutrients.

People with Parkinson's have an increased risk for osteoporosis. For this reason, it is important to consume food with plenty of calcium and Vitamin D. Milk is also a good source for Vitamin D. Soy milk and many alternative milk products are also fortified with calcium and Vitamin D. Another way to increase your Vitamin D intake is to spend time outside in the sunshine.

Read more about [nutrition for people with Parkinson's](#).

Therapies

Physical therapy can help those with Parkinson's cope with loss of balance and walking difficulties. Physical therapy can also introduce a safe exercise program.

The goal of occupational therapy is to teach those with parkinsonism ways to remain independent and manage daily tasks despite motor symptoms.

Speech therapy can help those with Parkinson's overcome symptoms such as difficulty swallowing and soft or monotone voice.

Clinical Trials

Depending on several factors, you may be eligible to participate in [clinical trials](#) studying new treatments for Parkinson's disease or parkinsonism. Clinical trials may test new

drugs, new procedures, new dosages of existing drugs, or new combinations of existing drugs. Clinical trials may also research the impact of exercise, nutrition, or dietary supplements on quality of life or the course of the disease. You can withdraw from a clinical trial at any time.

Condition Guide

- [Parkinson's Disease and Parkinsonism – An Overview](#)
 - [Parkinson's – The Path to Diagnosis](#)
 - [Side Effects and Parkinson's](#)
 - [Stages of Parkinson's](#)
 - [Symptoms of Parkinson's](#)
 - [Types of Parkinson's](#)
 - [What Causes Parkinson's?](#)
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References

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3. [Parkinson's Disease Medications — Michael J. Fox Foundation](#)
4. [Treating Parkinson's with complementary & alternative medicine \(CAM\) — American Parkinson Disease Association](#)
5. [Side Effects of Parkinson's Drugs — Parkinson's UK](#)
6. [Physical, Occupational & Speech Therapy — Parkinson's Association of the Carolinas](#)
7. [Deep Brain Stimulation — Parkinson's Foundation](#)
8. [Medications To Be Avoided Or Used With Caution in Parkinson's Disease — American Parkinson Disease Association](#)
9. [Resources for Prescription Assistance — Parkinson's Foundation](#)
10. [Tips for Paying for Treatment with Parkinson's — ParkinsonsDisease.net](#)
11. [Impulse Control Disorders — American Parkinson Disease Association](#)