

# PARKINSON'S DISEASE

## Definition

Parkinson's disease is a progressive disorder of the nervous system that affects your movement. It develops gradually, sometimes starting with a barely noticeable tremor in just one hand. But while a tremor may be the most well-known sign of Parkinson's disease, the disorder also commonly causes stiffness or slowing of movement.

In the early stages of Parkinson's disease, your face may show little or no expression or your arms may not swing when you walk. Your speech may become soft or slurred. Parkinson's disease symptoms worsen as your condition progresses over time.

Although Parkinson's disease can't be cured, medications may markedly improve your symptoms. In occasional cases, your doctor may suggest surgery to regulate certain regions of your brain and improve your symptoms.

## Symptoms

Parkinson's disease symptoms and signs may vary from person to person. Early signs may be mild and may go unnoticed. Symptoms often begin on one side of your body and usually remain worse on that side, even after symptoms begin to affect both sides.

Parkinson's signs and symptoms may include:

- **Tremor:** Your tremor, or shaking, usually begins in a limb, often your hand or fingers. You may notice a back-and-forth rubbing of your thumb and forefinger known as a pill-rolling tremor. One characteristic of Parkinson's disease is a tremor of your hand when it is relaxed (at rest).
- **Slowed movement (bradykinesia):** Over time, Parkinson's disease may reduce your ability to move and slow your movement, making simple tasks difficult and time-consuming. Your steps may become shorter when you walk, or you may find it difficult to get out of a chair. Also, you may drag your feet as you try to walk, making it difficult to move.
- **Rigid muscles:** Muscle stiffness may occur in any part of your body. The stiff muscles can limit your range of motion and cause you pain.
- **Impaired posture and balance:** Your posture may become stooped, or you may have balance problems as a result of Parkinson's disease.

- **Loss of automatic movements:** In Parkinson's disease, you may have a decreased ability to perform unconscious movements, including blinking, smiling or swinging your arms when you walk. You may no longer gesture when talking.
- **Speech changes:** You may have speech problems as a result of Parkinson's disease. You may speak softly, quickly, slur or hesitate before talking. Your speech may be more of a monotone rather than with the usual inflections. A speech-language pathologist may help improve your speech problems.
- **Writing changes:** Writing may appear small and become difficult.

Medications may greatly reduce many of these symptoms. These medications increase or substitute for dopamine, a specific signaling chemical (neurotransmitter) in your brain. People with Parkinson's disease have low brain dopamine concentrations.

### *When to see a doctor*

See your doctor if you have any of the symptoms associated with Parkinson's disease — not only to diagnose your condition but also to rule out other causes for your symptoms.

## Causes

In Parkinson's disease, certain nerve cells (neurons) in the brain gradually break down or die. Many of the symptoms are due to loss of neurons that produce a chemical messenger in your brain called dopamine. When dopamine levels decrease, it causes abnormal brain activity, leading to signs of Parkinson's disease.

The cause of Parkinson's disease is unknown, but several factors appear to play a role, including:

- **Your genes:** Researchers have identified specific genetic mutations that can cause Parkinson's disease, but these are uncommon except in rare cases with many family members affected by Parkinson's disease. However, certain gene variations appear to increase the risk of Parkinson's disease but with a relatively small risk of Parkinson's disease for each of these genetic markers.

- Environmental triggers: Exposure to certain toxins or environmental factors may increase the risk of later Parkinson's disease, but the risk is relatively small.
- Many changes occur in the brains of people with Parkinson's disease, including:
  - The presence of Lewy bodies: Clumps of specific substances within brain cells are microscopic markers of Parkinson's disease. These are called Lewy bodies, and researchers believe these Lewy bodies hold an important clue to the cause of Parkinson's disease.
  - A-synuclein is found within Lewy bodies: Although many substances are found within Lewy bodies, scientists believe the most important of these is the natural and widespread protein called alpha-synuclein. It's found in all Lewy bodies in a clumped form that cells can't break down. This is currently an important focus among Parkinson's disease researchers.
- Swallowing problems: You may develop difficulties with swallowing as your condition progresses. In typical Parkinson's disease, this is rarely a severe problem. Saliva may accumulate in your mouth due to slowed swallow, leading to drooling.
- Sleep problems and sleep disorders: People with Parkinson's disease often have sleep problems, including waking up frequently throughout the night, waking up early or falling asleep during the day.

People may also experience rapid eye movement sleep behavior disorder, which involves acting out your dreams. Medications may help your sleep problems.

- Bladder problems: Parkinson's disease may cause bladder problems, including being unable to control urine or having difficulty urinating.
- Constipation: Many people with Parkinson's disease develop constipation, mainly due to a slower digestive tract.

## Risk factors

Risk factors for Parkinson's disease include:

- Age: Young adults rarely experience Parkinson's disease. It ordinarily begins in middle or late life, and the risk increases with age. People usually develop the disease around age 60 or older.
- Heredity: Having a close relative with Parkinson's disease increases the chances that you'll develop the disease. However, your risks are still small unless you have many relatives in your family with Parkinson's disease.
- Sex: Men are more likely to develop Parkinson's disease than are women.
- Exposure to toxins: Ongoing exposure to herbicides and pesticides may put you at a slightly increased risk of Parkinson's disease.

## Complications

Parkinson's disease is often accompanied by these additional problems, which may be treatable:

- Thinking difficulties: You may experience cognitive problems (dementia) and thinking difficulties, which usually occur in the later stages of Parkinson's disease. Such cognitive problems aren't very responsive to medications.
- Depression and emotional changes: People with Parkinson's disease may experience depression. Receiving treatment for depression can make it easier to handle the other challenges of Parkinson's disease.

You may also experience other emotional changes, such as fear, anxiety or loss of motivation. Doctors may give you medications to treat these symptoms.

You may also experience:

- Blood pressure changes: You may feel dizzy or lightheaded when you stand due to a sudden drop in blood pressure (orthostatic hypotension).
- Smell dysfunction: You may experience problems with your sense of smell. You may have difficulty identifying certain odors or the difference between odors.
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- Fatigue: Many people with Parkinson's disease lose energy and experience fatigue, and the cause isn't always known.
- Pain: Many people with Parkinson's disease experience pain, either in specific areas of their bodies or throughout their bodies.
- Sexual dysfunction: Some people with Parkinson's disease notice a decrease in sexual desire or performance.

## Tests and diagnosis

No tests exist to diagnose Parkinson's disease. Your doctor trained in nervous system conditions (neurologist) will diagnose Parkinson's disease based on your medical history, a review of your signs and symptoms, and a neurological and physical examination.

Your doctor may order tests to rule out other conditions that may be causing your symptoms.

In addition to your examination, your doctor may give you carbidopa-levodopa, a Parkinson's disease medication. Significant improvement with this medication will often

confirm your diagnosis of Parkinson's disease. You must be given a sufficient dose to show the benefit, as low doses for a day or two aren't reliable. To assure an optimum response, the drug must be taken on an empty stomach at least an hour before meals.

Sometimes it takes time to diagnose Parkinson's disease. Doctors may recommend regular follow-up appointments with neurologists trained in movement disorders to evaluate your condition and symptoms over time and diagnose Parkinson's disease.

## Treatments and drugs

Parkinson's disease can't be cured, but medications can help control your symptoms, often dramatically. In some later cases, surgery may be advised.

Your doctor may also recommend lifestyle changes, especially ongoing aerobic exercise. In some cases, physical therapy that focuses on balance and stretching also is important.

### Medications

Medications can help you manage problems with walking, movement and tremor by increasing your brain's supply of dopamine. However, dopamine can't be given directly, as it can't enter your brain.

You may have significant improvement of your symptoms after beginning Parkinson's disease treatment. Over time, however, the benefits of drugs frequently diminish or become less consistent, although symptoms usually can continue to be fairly well controlled.

### Surgical procedures

- Deep brain stimulation. In deep brain stimulation (DBS), surgeons implant electrodes into a specific part of your brain. The electrodes are connected to a generator implanted in your chest near your collarbone that sends electrical pulses to your brain and may reduce your Parkinson's disease symptoms.

Your doctor may adjust your settings as necessary to treat your condition. Surgery involves risks, including infections, stroke or brain hemorrhage. Some people experience problems with the DBS system or have complications due to stimulation, and your doctor may need to adjust or replace some parts of the system.

Deep brain stimulation is most often offered to people with advanced Parkinson's disease who have unstable medication (levodopa) responses.

DBS can stabilize medication fluctuations, reduce or halt involuntary movements (dyskinesias), reduce tremor, reduce rigidity, and improve slowing of movement.

DBS is effective in controlling erratic and fluctuating responses to levodopa or for controlling dyskinesias that don't improve with medication adjustments.

However, DBS isn't helpful for problems that don't respond to levodopa therapy apart from tremor. A tremor may be controlled by DBS even if the tremor isn't very responsive to levodopa.

DBS may provide a sustained benefit to Parkinson's symptoms persisting for years after the procedure. However, DBS doesn't keep Parkinson's disease from progressing.

## Lifestyle and home remedies

If you've received a diagnosis of Parkinson's disease, you'll need to work closely with your doctor to find a treatment plan that offers you the greatest relief from symptoms with the fewest side effects. Certain lifestyle changes may also help make living with Parkinson's disease easier.

### Healthy eating

Eat a nutritionally balanced diet that contains plenty of fruits, vegetables and whole grains. Eating foods high in fiber and drinking an adequate amount of fluids can help prevent constipation that is common in Parkinson's disease.

A balanced diet also provides nutrients, such as omega-3 fatty acids, that may be beneficial for people with Parkinson's disease.

### Exercise

Exercising may increase your muscle strength, flexibility and balance. Exercise can also improve your well-being and reduce depression or anxiety.

Your doctor may suggest you work with a physical therapist to learn an exercise program that works for you. You may also try exercises such as walking, swimming, dancing, water aerobics or stretching.

Parkinson's disease can disturb your sense of balance, making it difficult to walk with a normal gait. Exercise may improve your balance. These suggestions may also help:

- Try not to move too quickly.
- Aim for your heel to strike the floor first when you're walking.
- If you notice yourself shuffling, stop and check your posture. It's best to stand up straight.
- Look in front of you, not directly down, while walking.

### Avoiding falls

In the later stages of the disease, you may fall more easily. In fact, you may be thrown off balance by just a small push or bump. The following suggestions may help:

- Make a U-turn instead of pivoting your body over your feet.
- Keep your center of gravity over your feet without leaning or reaching.
- Avoid carrying things while you walk.
- Avoid walking backward.

### *Daily living activities*

- Daily living activities — such as dressing, eating, bathing and writing — can be difficult for people with Parkinson’s disease.
- An occupational therapist can show you techniques that make daily life easier.

## **Coping and support**

Living with any chronic illness can be difficult, and it’s normal to feel angry, depressed or discouraged at times.

Parkinson’s disease presents special problems because it can cause chemical changes in your brain that make you feel anxious or depressed. Parkinson’s disease can be profoundly frustrating, as walking, talking and even eating become more difficult and time-consuming.

Although friends and family can be your best allies, the understanding of people who know what you’re going through can be especially helpful. Support groups aren’t for everyone. However, for many people with Parkinson’s disease and their families, support groups can be a good resource for practical information about Parkinson’s disease.

Also, groups offer a place for you to find people who are going through similar situations and can support you.

To learn about support groups in your community, talk to your doctor, a Parkinson’s disease social worker or a local public health nurse. Or contact The Parkinson’s Association of South Africa (PASA).

You and your family may also benefit from talking to a mental health professional (psychologist) or social worker trained in working with people with chronic conditions.

*Source: The Mayo Clinic*

## **Contact us**

Please feel free to contact your Aon Healthcare Consultant if you have any concerns. You may also contact the **Aon Resolution Centre on 0860 835 272 or e-mail: [arc@aon.co.za](mailto:arc@aon.co.za)** for further information.

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