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## Parkinson's disease

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### Summary

- Parkinson's disease is a manageable condition.
  - No two people with Parkinson's disease will experience the condition the same way, so everyone's treatment will be unique to them.
  - A neurologist is the best person to see if you have Parkinson's disease – your doctor can arrange this.
  - Good management of the disease a combination of medication and support from a team of allied health professionals such as occupational and speech therapists, nurses and counsellors.
  - Regular exercise can improve some of the symptoms of Parkinson's disease.
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Parkinson's disease is a progressive, degenerative neurological condition that affects a person's control of their body movements. It's not contagious or fatal – that is, a person cannot die from Parkinson's symptoms. It's thought that the disease may be genetic in a very small percentage of cases.

Parkinson's disease is classified as a progressive neurological condition. Symptoms of the disease are caused by the progressive degeneration of nerve cells in the middle area of the brain. This causes a lack of dopamine, a chemical messenger (neurotransmitter) necessary for smooth, controlled movements. The symptoms appear when about 70% of the dopamine-producing cells have stopped working normally. Parkinson's disease cannot be cured, but the symptoms can be managed. With a combination of medication and multidisciplinary support (team of allied health professionals), people with Parkinson's disease can live independent and productive lives.

### Incidence of Parkinson's disease

It's estimated that approximately four people per 1,000 in Australia have Parkinson's disease, with the incidence increasing to one in 100 over the age of 60. In Australia, there are approximately 80,000 people living with Parkinson's disease, with one in five of these people being diagnosed before the age of 50. In Victoria, more than 2,225 people are newly diagnosed with Parkinson's every year.

### Symptoms of Parkinson's disease

The type, number, severity and progression of Parkinson's disease symptoms vary greatly. Every person is affected differently – they may not get every symptom.

Some of the more common symptoms are:

- resting tremor (shaking in a body part when it is at rest)
- rigidity (muscle stiffness)
- bradykinesia (slowness of movement)
- freezing (experiencing a sudden inability to move)
- difficulty with multitasking
- loss of volume in speech
- stooped posture
- shuffling gait
- micrographia (small handwriting)
- apathy
- fatigue
- sleep disturbance
- loss of sense of smell

- depression
- blood pressure fluctuation
- constipation.

People living with Parkinson's for some time may experience hallucinations (something you see, hear, feel or smell which is not present), paranoia (feelings that someone wants to harm you or is present but they aren't there) and delusions (becoming convinced about a false or feeling which isn't true). These symptoms are able to be treated so have a talk with your doctor.

### **Causes of Parkinson's disease**

At present, we do not know the cause of Parkinson's disease. In most people there is no family history of Parkinson's. Researchers worldwide are investigating possible causes, including:

- environmental triggers, pesticides, toxins, chemicals
- genetic factors
- combinations of environment and genetic factors
- head trauma.

### **Diagnosis and management of Parkinson's disease**

There are no diagnostic tests for Parkinson's. X-rays, scans and blood tests may be used to rule out other conditions. For this reason, getting a diagnosis of Parkinson's may take some time.

No two people with Parkinson's disease will have exactly the same symptoms or treatment. Your doctor or neurologist can help you decide which treatments to use.

People can manage their Parkinson's disease symptoms through:

- seeing a Doctor who specialises in Parkinson's
- medication
- multidisciplinary therapy provided for example, by nurses, allied health professionals and counsellors
- deep brain stimulation surgery (for some people).

### **Medications for people with Parkinson's disease**

Symptoms of Parkinson's disease result from the progressive degeneration of nerve cells in the brain and other organs such as the gut, which produce a neurotransmitter called dopamine. This causes a deficiency in the availability of dopamine, which is necessary for smooth and controlled movements.

Medication therapy focuses on maximising the availability of dopamine in the brain. Medication regimes are individually tailored to your specific need. Parkinson's medications fit into one of the following broad categories:

- levodopa – dopamine replacement therapy
- dopamine agonists – mimic the action of dopamine
- COMT inhibitors – used along with levodopa. This medication blocks an enzyme known as COMT to prevent levodopa breaking down in the intestine, allowing more of it to reach the brain
- anticholinergics – block the effect of another brain chemical (a neurotransmitter called acetylcholine) to rebalance its levels with dopamine
- amantadine – has anticholinergic properties and improves dopamine transmission
- MAO type B inhibitors – prevent the metabolism of dopamine within the brain.

There is no 'best' medication treatment for Parkinson's. Each person has different symptoms, disease progression, lifestyle and physical tolerances. All of these factors will affect the timing, type, dose and combinations of medication.

As the disease progresses, your doctor will need to review and alter your medication program. It's important to see a neurologist or a doctor who has experience in helping people with Parkinson's disease.

Seeing a neurologist regularly will help you to make sure you are getting the best possible medication management. A neurologist will manage your doses and any necessary adjustments. This is important as side effects can be a problem for people on large doses.

Make sure you take your medication promptly at the recommended time every day, whether you are at home, at work, in hospital or in a nursing home. Taking medications late can severely hamper the movements of a person with Parkinson's disease.

Medication will help to alleviate symptoms but will not alter the progression of the symptoms over time. Over time your medication may become less effective and your neurologist will need to try different medication options to get the most benefit.

### **Surgery for people with Parkinson's disease**

**Deep brain stimulation** surgery is an option to treat Parkinson's disease symptoms, but it is not suitable for everyone. There are strict criteria and guidelines on who can be a candidate for surgery, and this is something that only your doctor and you can decide. Surgery may be considered early or late in the progression of Parkinson's.

When performing deep-brain stimulation surgery, the surgeon places an electrode in the part of the brain most effected by Parkinson's disease. Electrical impulses are introduced to the brain, which has the effect of 'normalising' the brain's electrical activity reducing the symptoms of Parkinson's disease. The electrical impulse is introduced using a pacemaker-like device called a stimulator.

Thalamotomy and pallidotomy are operations where the surgeon makes an incision (cut) on part of the brain. These surgeries aim to alleviate some forms of tremor or unusual movement, but they are rarely performed now.

### **Support for people with Parkinson's disease**

Early access to a multidisciplinary support team is important. These teams may include doctors, physiotherapists, occupational therapists, speech therapists, dietitians, social workers and specialist nurses.

Members of the team assess the person with Parkinson's disease and identify potential difficulties and possible solutions.

There are a limited number of multidisciplinary teams in Victoria that specialise in Parkinson's disease management. But generalist teams are becoming more aware of how to help people with Parkinson's disease.

### **Exercise and Parkinson's disease**

Evidence suggests that regular exercise can improve some symptoms of Parkinson's disease and improve your quality of life. Consult closely with your doctor, physiotherapist or healthcare professional when devising your own exercise program.

### **Benefits of regular exercise with Parkinson's disease**

Benefits of regular exercise for a person with Parkinson's disease can include:

- better control over gross motor movements, such as walking
- greater muscle strength and flexibility
- increased cardiovascular fitness
- improved coordination and balance
- reduced risk of falling
- improved posture
- greater confidence in performing daily activities
- reduced stress levels
- improved joint mobility.

### **Help for carers of people with Parkinson's disease**

Being a carer for a person who has Parkinson's disease can be difficult. A wide range of agencies can provide help and support, including counselling, carer education programs, information and support groups. These agencies for carers include **Parkinson's Victoria** and **Carers Victoria**.

### Where to get help

- Your doctor
- Neurologist
- Physiotherapist
- Community services at your local council
- **Parkinson's Victoria** Tel. 1800 644 189 or (03) 9581 8700
- **Peer support groups**
- **Independent Living Centres Australia** Tel. (03) 9362 6111 or 1300 885 886, TTY (03) 9314 9001
- **Carers Victoria** Tel. 1800 242 636, TTY (03) 9396 9587
- **The Brain Foundation** Tel. 1300 886 660
- **BrainLink** Tel. 1800 677 579 or (03) 9845 2952

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Parkinson's Victoria

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