



Medicines for Parkinson's disease



Medicines for Parkinson's disease provide symptomatic relief. No medicine has yet been shown to slow progression of the disease. There are also some medicines that should be avoided.

Medicine regimens are individual

Doses, preparations, frequency and timing need to be individualised according to symptoms, and to minimise side effects.

Parkinson's medicines come in various doses and preparations (e.g. controlled release, immediate release, subcutaneous infusion).

Give Parkinson's medicines on time

Even 15 minutes late can make symptoms significantly worse.

Let the person with Parkinson's self-medicate if possible

This may give the best chance of medicines being taken on time (providing there is no significant cognitive impairment).

Don't stop or reduce the dose without consulting a neurologist or geriatrician

Abrupt withdrawal or reduction in dose of Parkinson's medicines may cause serious symptoms, such as worsening tremor, rigidity and bradykinesia. Abrupt withdrawal may also trigger neuroleptic malignant syndrome, resulting in acute worsening of Parkinson's symptoms, high fever, reduced level of consciousness and autonomic dysfunction.

Avoid interactions with meals

Food, particularly protein, can interfere with absorption of levodopa. It is best if levodopa medicines are given consistently 30 to 60 minutes before meals.

Chart Parkinson's medicines before surgery

Make sure Parkinson's medicines are charted before surgery, or contact the anaesthetist for further instructions.

Review medicines if pain persists

Many people with Parkinson's have pain, either from muscle rigidity or dystonias (sustained cramps). Pain due to dystonia is not usually helped by analgesics, but is helped by Parkinson's medicines. If dystonia persists, slow-release levodopa or agonists in combination may be needed, especially during 'off' periods such as during the night.

Manage nausea

Some people may need to take Parkinson's medicines with juice or jelly to reduce nausea. If nausea persists, domperidone (Motilium) is usually recommended if an oral medicine is appropriate, and ondansetron (e.g. Zofran) IV if an oral medicine is not appropriate. Note: Ondansetron is contraindicated in patients on apomorphine. Avoid metoclopramide (e.g. Maxolon) and prochlorperazine (e.g. Stemetil) as they can worsen Parkinson's symptoms.

Medicines that must be avoided in people with Parkinson's disease

This is only a small selection — many other medicines can worsen Parkinson's symptoms or interact with Parkinson's medicines.

Check the contraindications on the prescribing information carefully before starting any new medicine.

Antinausea medicines to avoid

- ▶ metoclopramide (e.g. Maxolon)
- ▶ prochlorperazine (e.g. Stemetil).

The above medicines are a common cause of serious adverse effects in people with Parkinson's. Domperidone (Motilium) is usually recommended if an oral medicine is appropriate and ondansetron (e.g. Zofran) IV if an oral medicine is not appropriate. Note: Ondansetron is contraindicated in patients on apomorphine.

Antipsychotic medicines to avoid

- ▶ chlorpromazine (e.g. Largactil)
- ▶ olanzapine (e.g. Zyprexa)
- ▶ haloperidol (e.g. Serenace)
- ▶ risperidone (e.g. Risperdal).

Some antidepressants and some blood pressure lowering medicines

Check the contraindications on the prescribing information carefully before starting any new antidepressant medicine or any new blood pressure medicine.

Types of Parkinson's disease medicines

Dopamine replacement

The mainstay of Parkinson's treatment is dopamine replacement (levodopa) in combination with a dopa-decarboxylase inhibitor (carbidopa or benserazide) to reduce peripheral side effects of levodopa.

- ▶ levodopa/carbidopa (Sinemet, Kinson)
- ▶ levodopa/benserazide (Madopar)
- ▶ levodopa/carbidopa/entacapone (Stalevo).

Levodopa stays in the blood for only 60–180 minutes, but has a longer action — especially in early Parkinson's. In some people with more advanced Parkinson's, it may only last 60–120 minutes, leading to 'on' / 'off' motor fluctuations. Possible side effects include nausea (initially), hypotension, motor fluctuations, hallucinations and dyskinesia.

Dopamine agonists

These act on dopamine receptor sites in the basal ganglia, in a similar way to levodopa. They can allow a decrease in levodopa dosage and improve motor fluctuations.

- ▶ pramipexole (Sifrol, Simipex)
- ▶ cabergoline (e.g. Bergoline, Cabaser, Cobasol)
- ▶ pergolide (Permax)
- ▶ bromocriptine (Kripton, Parlodel)
- ▶ rotigotine patches (Neupro)
- ▶ apomorphine (Apomine) — injectable medicine.

Possible side effects include those for dopamine replacement. These medicines can also cause or contribute to daytime sleepiness. There are also potential risks associated with ergot-derived agonists (cabergoline, pergolide and bromocriptine) of cardiac valvular disease and pleuropulmonary/retroperitoneal fibrosis. Please note that dopamine agonists have been associated with impulse control disorder (ICD).

COMT inhibitors

These inhibit catechol-o-methyl transferase, which breaks down levodopa. This results in higher and more sustained levodopa plasma concentrations, prolonging its action. At present, there is only one medicine available on PBS:

- ▶ entacapone (Comtan).

Possible side effects include gastrointestinal upset and increased dyskinesia.

Anticholinergics

These medicines are seldom used for Parkinson's due to a high side effect profile in the elderly and a lack of therapeutic effect. They reduce acetylcholine effects in Parkinson's, and may be useful for treating tremor in younger people.

- ▶ benzhexol (Artane)
- ▶ benztropine (Benztrop, Cogentin)
- ▶ biperiden (Akineton).

Possible side effects include blurred vision, dry mouth, urinary retention and constipation.

MAO type B inhibitors

These selectively inhibit monoamine oxidase B (MAO-B), one of the enzymes that catabolises dopamine in the brain, and also block dopamine reuptake. They prolong the effect of dopamine.

- ▶ selegiline (Eldepryl, Selgene)
- ▶ rasagiline (Azilect).

Possible side effects include sleep disturbances, hypotension, headache and nausea. MAO-B inhibitors have dangerous interactions with some other medicines, including pethidine and some antidepressants, and can contribute to serotonin toxicity. **Check interactions before prescribing.**

Amantadine

Possibly acts as an indirect dopamine receptor agonist as well as having some anticholinergic activity. It is also used for treatment of severe dyskinesias.

- ▶ amantadine (Symmetrel).

Side effects include ankle swelling and difficulty sleeping.

Treatments for advanced disease

People whose Parkinson's symptoms are not well controlled may require one of the following advanced treatments:

- ▶ levodopa/carbidopa (Duodopa) intestinal gel — medicine is directly infused into the duodenum or upper jejunum by an electronic pump
- ▶ apomorphine (Apomine) — administered by injection or infusion subcutaneously by an electronic pump
- ▶ deep brain stimulation — a surgically implanted device electrically stimulates the brain.

The *Parkinson's Passport, Medicines List* for people with Parkinson's and *Checklist for managing my Parkinson's symptoms* are available in editable PDF format for download and print from nps.org.au/parkinsons-passport and parkinsons.org.au. Copies can be ordered from Parkinson's Australia by phoning **1800 644 189**.

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