

## Pharmacist's advice on appropriate medication use

✘ Refuse to use medications because of potential side effects.

✔ Not everyone will experience side effects after using the medications. The severity of side effects also differs among individuals. You should not be too worried about the side effects of the medications. If you stop using the medications or change the dose or frequency due to potential side effects, your conditions may get worse. Most common side effects are mild and will subside when your body adapts to them. Consult your doctor or pharmacist if the side effects persist or worsen.

✘ Since Parkinson's disease is not curable, I do not want to use the medications.

✔ It is understandable that you may feel down about your condition, but this will only pose a more negative impact on your daily life. Although Parkinson's disease is not completely curable, symptoms and quality of life can be improved if you are compliant to the medication instruction, doing adequate exercise and keeping a joyful mind.

✘ The levodopa-containing medication is not as effective as before. Doctor has already prescribed an add-on medication; I should stop taking the levodopa-containing medication by myself.

✔ The add-on medication is mainly used to enhance the effect of levodopa-containing medications. The best effect is only achieved when you take both medications concurrently. Therefore, you should not stop the medications without consulting your doctor.

✘ I have been using levodopa-containing medications for several years with significant effects. The symptoms become uncontrolled recently. Therefore, I should increase the dose and frequency of the medications by myself.

✔ Levodopa-containing medication is the most commonly prescribed and a very effective medication in Parkinson's disease, but its effect weakens with time. This usually happens 2 to 5 years after using the medication. The loss of effect will manifest as: (1) wearing-off before the next drug administration, leading to symptoms; (2) "on-off" effect meaning a sudden switch between being able to move (on) and being immobile (off). The above phenomenon can be relieved by increasing the dosing frequency, using prolonged-release formulation or adding other PD medications. Doctor will choose the most appropriate treatment option for you according to your condition and side effects experienced. You should not increase the dose and frequency of the medications by yourself, as it will not improve your condition but worsen the side effects.

✘ Recently, doctor has prescribed an additional medication for me apart from my levodopa-containing medication. I also experienced more involuntary movements. I believe my condition is deteriorating.

✔ When a new medication is initiated, it often takes time to develop the full therapeutic effects. Doctor may need to adjust the dosage of both medications gradually over time in order to maximize therapeutic effect and minimize side effects. During dosage adjustment phase, you may experience side effects such as dyskinesia (the involuntary movements). It will improve when the doctor lowers the dose of levodopa-containing medications according to individual patient's condition. Therefore, you should not regard this as disease deterioration.

## What if I miss a dose



Use the missed dose as soon as you remember. Skip the missed dose if it is almost time for your next scheduled dose.

Do not double the dose.

## How to store



- Store in a cool and dry place away from direct heat and light.
- Keep out of reach of children.
- Discard all medications that have expired or are no longer required.
- Do not share the medication with other people.

**? For any queries,  
please seek advice from your doctor,  
pharmacist or other healthcare  
professionals.**

# Medications for Parkinson's Disease



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## What is Parkinson's Disease ?



Parkinson's disease (PD) is a chronic neurodegenerative disorder. Its cause is related to the loss of neurones, resulting in reduced production of neurotransmitters (mainly dopamine) that controls movement and coordination. PD is more common in elderly above 60 years, and occurs in both male and female. The disease will progress with time, and patients will gradually lose muscle movement control.

The signs and symptoms of PD vary as the disease worsens, and may differ among individuals. Common symptoms include resting tremor of limbs, muscle rigidity, slow in movement, postural instability and gait disturbance. Some patients may also experience difficulty in swallowing, speech disorder, "masked" face, constipation and memory problems.

Although there is no complete cure for PD, a range of medications and treatments are available to manage the disease. Medications can reduce the symptoms by trying to restore a balance of neurotransmitters. Other treatments including physiotherapy, occupational therapy, and speech and language therapy can improve the patient's daily functioning and quality of life. Surgical procedures such as deep brain stimulation may be considered under doctor's advice.

## Precautions on lifestyle

Patients should maintain a balanced diet and a healthy body weight. Patients with swallowing difficulties should select food that can be swallowed easily to avoid malnutrition. Maintaining sufficient fibre intake (e.g. vegetables and fruits) and drinking enough water can improve constipation in PD patients.

Exercise is important to patients with PD. Regular exercise can improve muscle activity and flexibility for daily functioning. Avoid excessive strenuous exercise and take regular breaks.

Patients with PD may feel depressed and anxious, which can cause a great impact to life if neglected. It is important to be optimistic and cheerful. Talk to your family and friends when you feel down and anxious. Patients can

also obtain care and support from other PD patients by joining supporting groups.

## Precautions on medication use

- Use the medications as directed. Do not stop using the medications or change the dose or frequency unless directed by your doctor. If you stop your medications suddenly, you may experience an increase in muscle rigidity, which would potentially lead to deep vein thrombosis and severe complications.
- Use the medications preferably at the same time every day.
- If you have a history of drug allergy, consult your doctor or pharmacist before using the medications.
- Tell your doctor and pharmacist if you are pregnant, planning to become pregnant, or breastfeeding.
- Consult your doctor or pharmacist before using any other medications, including health supplements, Traditional Chinese Medicines, Proprietary Chinese Medicines and over-the-counter medications.
- Food may affect the absorption of levodopa-containing medications. You must not make adjustment to your medication schedule, including the time between medication and food intake, and the amount of food intake. Using the medications inconsistently with and without food can affect the drug effect. For details, please refer to the precautions section regarding levodopa-containing medications.
- Record the time you use the medications and symptoms occur when you encounter uncontrolled symptoms. This can help the doctor to assess your condition.
- Doctor may change your medications according to your condition. Pay attention to any changes in medications, dose and frequency each time when you collect the medications. Follow the instruction on the label and do not use the medications just from memory.
- Please consult your doctor or pharmacist if you encounter any difficulties in using the medications.
- Please consult your doctor if symptoms persist or worsen after using the medications.

## Medications for Parkinson's Disease

Classes of Medications	Common side effects	Precautions
<b>Levodopa-containing medications</b> Levodopa / benserazide (Madopar, Madopar HBS, Madopar Dispersible, or equivalent) Levodopa / carbidopa (Sinemet, Sinemet CR, or equivalent) Levodopa / carbidopa / entacapone (Stalevo, or equivalent)	Nausea, vomiting, postural hypotension*, dyskinesia**, confusion, loss of appetite, insomnia, anxiety, depression, dark-colored urine  "On-off" effect if long-term use [sudden switch between being able to move (on) and being immobile (off)]	<ul style="list-style-type: none"> <li>※ Take the medication one hour before meal or on empty stomach. You may take with food if you experience gastrointestinal disturbance. If your condition has been stabilized, you do not need to change the way you take the medications. Maintain similar amount of food and protein intake while taking this medication to avoid unstable absorption and therapeutic effect.</li> <li>※ For the best treatment effect, follow the instruction on the label regarding whether to swallow the medications whole or to disperse them in water.</li> <li>※ Do not take Stalevo with iron preparations. Take at least 2-3 hours apart.</li> </ul>
<b>Monoamine oxidase-B (MAO-B) inhibitors</b> Rasagiline, Selegiline	Nausea, insomnia, dizziness, dry mouth, headache, constipation	<ul style="list-style-type: none"> <li>※ Take in the morning to prevent insomnia. For twice daily dosing, take the second dose in early afternoon.</li> <li>※ Avoid high tyramine-containing food, such as cheese, beer, sausages, sourdough bread, and miso soup.</li> <li>※ Taking doses more than prescribed can lead to severe adverse events.</li> <li>※ Seek medical advice immediately if you experience hypertensive crisis, occipital headache, severe nausea and vomiting.</li> </ul>
<b>Dopamine agonists</b>  <b>Oral agents</b> Bromocriptine, Pramipexole, Ropinirole  <b>Transdermal patches</b> Rotigotine	Nausea, vomiting, postural hypotension*, drowsiness, hallucination, dyskinesia**, compulsive behaviours such as hypersexuality, buying, gambling and eating disorders. Some patients may suddenly fall asleep during daytime.  Patches may also cause skin reactions such as redness and itchiness	<b>Regarding rotigotine transdermal patches:</b> <ul style="list-style-type: none"> <li>※ Do not use the patch that is broken or damaged. Do not trim or cut the patch.</li> <li>※ Clean and dry the skin area before application. Apply the patch to skin with little or no hair, free of scars, cut or irritation.</li> <li>※ Change the patches at the same time every day. Remember to take off the old patch before putting on a new one.</li> <li>※ Apply each patch to a different area of the body. Do not apply to the same site within 14 days.</li> <li>※ You may bath, shower and exercise while wearing your patch.</li> <li>※ Do not expose the application site to direct source of heat, such as heating pads, electric pads, heated waterbeds and saunas, as heat may speed up the drug release.</li> <li>※ The patch may contain metal. Remove the patch before MRI scan.</li> </ul>
<b>Antimuscarinics</b> Bantropine, Benhexol	Dry mouth, constipation, blurred vision, urinary retention	<ul style="list-style-type: none"> <li>※ Increase fluid and fibre (e.g. vegetables) intake to prevent constipation.</li> </ul>
<b>COMT inhibitors</b> Entacapone, Levodopa / carbidopa / entacapone (Stalevo or equivalent)	Nausea, vomiting, dry mouth, diarrhoea, abdominal pain, dyskinesia**, dark-colored urine	<ul style="list-style-type: none"> <li>※ Do not take with iron preparations. Take at least 2 - 3 hours apart.</li> <li>※ Take with levodopa-containing medications at the same time for better efficacy.</li> </ul>
<b>Amantadine</b>	Insomnia, dizziness, nausea, postural hypotension*, reddish-purple reticulated patches on the skin, ankle swelling, anxiety, confusion and difficulty in concentration	<ul style="list-style-type: none"> <li>※ Take in the morning to prevent insomnia. For twice daily dosing, take the second dose in early afternoon.</li> <li>※ Lift the legs to relieve ankle swelling.</li> </ul>

\* Postural hypotension is a form of low blood pressure and dizziness that happens when you stand up quickly from sitting or lying down. Standing up slowly can reduce this side effect.

\*\* Dyskinesia refers to the involuntary movements of the face, neck, tongue and limbs.

※ If you experience confusion, sleepiness, dizziness or blurred vision after taking the medications, avoid driving or activities requiring mental alertness or coordination. Avoid alcohol as it may potentiate the side effects.

※ If you notice any allergic reactions like skin itchiness, face or hand swelling, breathing difficulty, etc., consult your doctor immediately.