

# Medications for Motor Symptoms



There is no standard treatment for Parkinson's disease (PD). Treatment for each person with Parkinson's is based on his or her motor symptoms, or movement related symptoms. There are many medications available to treat Parkinson's motor symptoms, although none yet that reverse the effects of the disease. It is common for people with PD to take a variety of these medications — all at different doses and at different times of day — to manage these motor symptoms. Always remember that medication is only part of the overall treatment plan for combating PD, and that exercise and complementary therapies are important to living well with PD.

Note: medications categories listed alphabetically and are alphabetized within each category by brand name, which appears in parentheses.

## Adenosine A2A antagonists

Medication (product name in parentheses)	Dosages	Typical Treatment Regimens	Common Side Effects	Indications for Usage
<b>Istradefylline (Nourianz)</b>	20 or 40 mg tablets	20–40 mg once/day	Dyskinesia, insomnia, hallucinations, dizziness	Combination therapy with carbidopa/levodopa for "off" episodes

## Amantadine

Medication (product name in parentheses)	Dosages	Typical Treatment Regimens	Common Side Effects	Indications for Usage
<b>Amantadine ER capsules (Gocovri)</b>	68.5 or 137 mg capsules	137–274 mg once/day at bedtime	Dizziness, hallucination, paranoia, nausea, confusion, leg discoloration (livedo reticularis), dizziness/low blood pressure from seated to standing, dry mouth, constipation, urinary retention, and potential effect of arrhythmias	Combination therapy with levodopa for levodopa-induced dyskinesia; "off" episodes in Parkinson disease

Medication (product name in parentheses)	Dosages	Typical Treatment Regimens	Common Side Effects	Indications for Usage
<b>Amantadine ER tablets (Osmolex ER)</b>	129, 193, or 258 mg tablets	129–322 mg once/day upon waking	Dizziness, hallucination, paranoia, nausea, confusion, leg discoloration (livedo reticularis), dizziness/low blood pressure from seated to standing, dry mouth, constipation, urinary retention, and potential effect of arrhythmias	Monotherapy; or combination therapy with carbidopa/levodopa with or without motor fluctuations.
<b>Amantadine (Symmetrel)</b>	100 mg capsules or tablets 50 mg/5 ml syrup	100 mg 2–3 times/day	Dizziness, hallucination, paranoia, nausea, confusion, leg discoloration (livedo reticularis), dizziness/low blood pressure from seated to standing, dry mouth, constipation, urinary retention, and potential effect of arrhythmias	Monotherapy for slowness, stiffness, and tremor; combination therapy with levodopa for levodopa-induced dyskinesia

## Anticholinergics

Medication (product name in parentheses)	Dosages	Typical Treatment Regimens	Common Side Effects	Indications for Usage
<b>Trihexyphenidyl (formerly Artane®)</b>	2 or 5 mg tablets 2 mg/5 ml elixir	1–2 mg 2–3 times/day	Confusion, memory issues, hallucinations, dry mouth, blurry vision, urinary retention	Monotherapy or combination therapy, predominantly for tremor and dystonia in younger people; should be avoided in elderly
<b>Benzotropine (Cogentin®)</b>	0.5, 1, or 2 mg tablets	0.5–2 mg 2–3 times/day	Confusion, memory issues, hallucinations, dry mouth, blurry vision, urinary retention	Monotherapy or combination therapy, predominantly for tremor and dystonia in younger people; should be avoided in elderly



## COMT-Inhibitors

Medication (product name in parentheses)	Dosages	Typical Treatment Regimens	Common Side Effects	Indications for Usage
<b>Entacapone (Comtan®)</b>	200 mg tablets	4–8 times/day (with each levodopa dose)	Diarrhea, discolored urine, plus enhancing side effects of levodopa, especially dyskinesia and confusion	Combination therapy with levodopa for motor fluctuations (not used without levodopa)
<b>Opicapone (Ongentys)</b>	25 or 50 mg capsules	50 mg once/day at bedtime	Dyskinesia, constipation, low blood pressure/dizziness, weight loss	Combination therapy with levodopa for "off" time (not pharmacologically active by itself)
<b>Tolcapone (Tasmar®)</b>	100 or 200 mg tablets	100 mg up to 3 times/day Maximum 200 mg 3 times/day	Diarrhea, discolored urine, plus enhancing side effects of levodopa, especially dyskinesia and confusion, plus risk of liver damage. Needs regular blood tests for checking liver functions.	Combination therapy with levodopa for motor fluctuations (not used without levodopa)  Note: Should only be used after all PD medications have been tried and should be discontinued if no benefit in 3 weeks.

## Dopamine Agonists

Medication (product name in parentheses)	Dosages	Typical Treatment Regimens	Common Side Effects	Indications for Usage
<b>Apomorphine subcutaneous injections (Apokyn®)</b>	10 mg/ml vial	Requires test doses. Typically dosed between 0.2–0.6 ml every 2 hours as needed for "off" time. No more than 5 doses per 24 hours. Do not exceed 2 ml in 24 hours.	Low blood pressure, nausea, leg swelling and discoloration, confusion, sleep attacks, compulsive behaviors like gambling; may receive anti-nausea medication daily for 3 days before starting medication	Adjunct therapy as needed for "off" episodes. It is the only injectable, fast-acting dopaminergic drug. Starts working in 10 minutes and lasts for 90 minutes.



Medication (product name in parentheses)	Dosages	Typical Treatment Regimens	Common Side Effects	Indications for Usage
<b>Apomorphine hydrochloride (KYNMOBI™)</b>	10, 15, 20, 25, or 30 mg sublingual film	<p>One 10 mg film placed under the tongue as needed, up to five doses per day, separated by at least 2 hours.</p> <p>These films are similar in appearance to breath freshening strips.</p> <p>However, these are placed under the tongue rather than on top.</p>	<p>Nausea, oral/pharyngeal soft tissue swelling, oral/pharyngeal soft tissue pain and numbness, dizziness, and sleepiness.</p> <p>May receive anti-nausea medication daily for 3 days before starting medication.</p>	<p>For the acute, intermittent treatment of "off" episodes in Parkinson's disease.</p> <p>It is the only sublingual therapy approved for the on-demand treatment of Parkinson's disease "off" episodes.</p>
<b>Pramipexole (Mirapex®)</b>	0.125, 0.25, 0.5, 0.75, 1, or 1.5 mg tablets	1.5–4.5 mg total daily dose (3 times/day)	Low blood pressure, nausea, leg swelling and discoloration, confusion, sleep attacks, compulsive behaviors like gambling	Monotherapy or combination therapy for slowness, stiffness and tremor
<b>Pramipexole ER (Mirapex ER®)</b>	0.375, 0.75, 1.5, 2.25, 3, 3.75, or 4.5 mg tablets	1.5–4.5 mg once/day	Low blood pressure, nausea, leg swelling and discoloration, confusion, sleep attacks, compulsive behaviors like gambling	Monotherapy or combination therapy for slowness, stiffness and tremor
<b>Ropinirole (Requip®)</b>	0.25, 0.5, 1, 2, 3, 4, or 5 mg tablets	9–24 mg total daily dose (3 times/day)	Low blood pressure, nausea, leg swelling and discoloration, confusion, sleep attacks, compulsive behaviors like gambling	Monotherapy or combination therapy for slowness, stiffness and tremor
<b>Ropinirole XL (Requip® XL™)</b>	2, 4, 6, 8, or 12 mg tablets	8–24 mg once/day	Low blood pressure, nausea, leg swelling and discoloration, confusion, sleep attacks, compulsive behaviors like gambling	Monotherapy or combination therapy for slowness, stiffness and tremor



Medication (product name in parentheses)	Dosages	Typical Treatment Regimens	Common Side Effects	Indications for Usage
<b>Rotigotine (Neupro)</b>	1, 2, 3, 4, 6, or 8 mg patch	4–8 mg once/day	Low blood pressure, nausea, leg swelling and discoloration, confusion, sleep attacks, compulsive behaviors like gambling plus skin rashes	Monotherapy or combination therapy for slowness, stiffness and tremor; skin patch delivery an advantage for some

## Levodopa

Medication (product name in parentheses)	Dosages	Typical Treatment Regimens	Common Side Effects	Indications for Usage
<b>Carbidopa/levodopa enteral Suspension (Duopa) via surgically implanted tube in small intestine</b>	4.86/20 per ml	Up to 2000 mg of levodopa over 16 hours	Low blood pressure, nausea, confusion, dyskinesia	For the treatment of motor fluctuations in patients with advanced Parkinson's disease
<b>Carbidopa/levodopa orally disintegrating tablets (Parcopa)</b>	10/100, 25/100, or 25/250 mg tablets	150–1000 mg of levodopa total/day (divided 3–4 times)	Low blood pressure, nausea, confusion, dyskinesia	Monotherapy or combination therapy for slowness, stiffness and tremor, plus need for dissolvable medication in mouth especially if swallowing is impaired
<b>Carbidopa/levodopa extended-release capsules (Rytary)</b>	23.75/95, 36.25/145, 48.75/195, or 61.25/245 mg capsules	855–2340 mg of levodopa total daily dose	Low blood pressure, nausea, confusion, dyskinesia	Monotherapy or adjunct therapy for slowness, stiffness and tremor. Note that dosages of Rytary are not interchangeable with other carbidopa/levodopa products.
<b>Carbidopa/levodopa immediate-release tablets (Sinemet)</b>	10/100, 25/100, or 25/250 mg tablets	150–1000 mg of levodopa total/day (divided 3–4 times)	Low blood pressure, nausea, confusion, dyskinesia	Monotherapy or combination therapy for slowness, stiffness and tremor



Medication (product name in parentheses)	Dosages	Typical Treatment Regimens	Common Side Effects	Indications for Usage
<b>Carbidopa/levodopa controlled-release tablets (Sinemet CR*)</b>	25/100 or 50/200 mg tablets	400–1600 mg of levodopa in divided doses, depending on daily need	Low blood pressure, nausea, confusion, dyskinesia	Monotherapy or combination therapy for slowness, stiffness and tremor
<b>Carbidopa/levodopa/entacapone tablets (Stalevo)</b> [see COMT-inhibitors]	12.5/50/200, 18.75/75/200, 25/100/200, 31.25/125/200, 37.5/150/200, or 50/200/200 mg tablets	150–1600 mg of levodopa total daily dose, depending on daily need. Max 8 tab/day.	Low blood pressure, nausea, confusion, dyskinesia, plus diarrhea and discolored urine (due to entacapone)	Replacement for carbidopa/levodopa, for motor fluctuations (benefit of entacapone)
<b>LEVODOPA INHALATION (Inbrija) via inhaler</b>	42 mg per capsule	84 mg (2 capsules) inhaled by mouth up to 5 times/day as needed	Low blood pressure, nausea, confusion, dyskinesia plus cough	Combination therapy used as needed for “off” episodes. Starts working in 10–30 minutes and last up to 60 minutes. Must be used with oral Carbidopa/levodopa or Dupoa.

\*Sinemet CR is no longer being produced, but the generic forms continue to be available.

## MAO-B Inhibitors

Medication (product name in parentheses)	Dosages	Typical Treatment Regimens	Common Side Effects	Indications for Usage
<b>Rasagiline (Azilect®)</b>	0.5 or 1.0 mg tablets	1.0 mg once/day	Nausea, dry mouth, lightheadedness, constipation; may worsen dyskinesia; possible rare interaction with anti-depressants and other drug classes (Insomnia unlikely in monotherapy)	Monotherapy; or combination therapy with carbidopa/levodopa with or without motor fluctuations.



Medication (product name in parentheses)	Dosages	Typical Treatment Regimens	Common Side Effects	Indications for Usage
<b>Selegiline (l-deprenyl, Eldepryl)</b>	5 mg tablets	5 mg twice/day (with breakfast and lunch)	Nausea, dry mouth, lightheadedness, constipation; may worsen dyskinesia; insomnia; possible rare interaction with anti-depressants and other drug classes	Monotherapy for slowness, stiffness and tremor; combination therapy for motor fluctuations
<b>Safinamide (Xadago)</b>	10 mg tablets	10 mg once/day	Same as above	Combination therapy to carbidopa/levodopa for "off" episodes
<b>Selegiline HCL orally disintegrating (Zelapar)</b>	1.25 or 2.5 mg tablets	1.25–2.5 mg once/day	Nausea, dry mouth, lightheadedness, constipation; may worsen dyskinesia; insomnia; possible rare interaction with anti-depressants and other drug classes	Monotherapy; or combination therapy with carbidopa/levodopa with or without motor fluctuations; plus need for disolvable medication in mouth especially if swallowing is impaired

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