2023 Clinicians' Prescribing Guide

Parkinson Disease

Medications & Devices

PMD Alliance

Parkinson & Movement Disorder Alliance

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About PMD Alliance

Parkinson & Movement Disorder Alliance is an independent 501c3 nonprofit organization offering a fresh approach to serving people impacted by Parkinson disease and other movement disorders. With a focus on the Movement Disorder Care & Support Ecosystem©, PMD Alliance offers programs that build capacity in the systems interacting with your patients–such as care partners, adult children, support groups, and long-term care facilities. In partnership with MedStar Georgetown University, PMD Alliance hosts the annual Advanced Therapeutics in Movement & Related Disorders Congress in Washington, DC.

About this Guide

This guide was designed as a quick reference guide for clinicians who treat patients with Parkinson disease (PD). It organizes the available medication categories according to their FDA approved indication, to guide how they might be used in everyday clinical practice. This is a brief summary of information drawn directly from the product's FDA-approved labeling. While every effort was made to ensure the accuracy of this information, please consult the full labeling for dosage guidelines, safety precautions, and other details. Also, please note where generic agents are available. Generic products will vary in appearance.

PMD Alliance
Parkinson & Movement Disorder Alliance

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TREATMENT OF MOTOR SYMPTOMS AND OFF EPISODES IN PARKINSON DISEASE

Carbidopa/Levodopa Combinations

Sinemet® (carbidopa/levodopa – oral)

Treatment of Parkinson disease

Adverse Reactions: Dyskinesia, nausea, hallucinations, confusion, dizziness, depression, urinary tract infection, headache, abnormal dreams, dystonia, vomiting, upper respiratory infection, dyspnea, off episodes, back pain, dry mouth, anorexia, diarrhea, insomnia, hypotension, constipation.

Warnings: May cause mental disturbances; May increase the possibility of upper gastrointestinal hemorrhage in patients with a history of peptic ulcer.
CR may be associated with increased dyskinesias vs immediate release; CR: use caution in patients with severe cardiovascular or pulmonary disease, bronchial asthma, renal, hepatic or endocrine disease.

Contraindications: Nonselective MAO inhibitors; foods high in protein, fiber. Suspicious, undiagnosed skin lesions or history of melanoma

Interactions: Antihypertensives (adjust dose), tricyclic antidepressants, dopamine D2 receptor antagonists, iron salts, metoclopramide.

Administration: See labeling for dosage tables for titration and for conversion from immediate-release carbidopa/levodopa

Dosage Form: Immediate-release tablets

10 mg carbidopa 100 mg levodopa	25 mg carbidopa 100 mg levodopa	25 mg carbidopa 250 mg levodopa
		

Immediate-release tablets available as generic.
Sustained release now available only as generic:
25 mg carbidopa/100 mg levodopa tablet and
50 mg carbidopa/200 mg levodopa tablet.

Rytary® (carbidopa/levodopa oral extended-release)

Treatment of Parkinson disease

Adverse Reactions: Early PD: Nausea, dizziness, headache, insomnia, abnormal dreams, dry mouth, dyskinesia, anxiety, constipation, vomiting, and orthostatic hypotension.
Advanced PD: Nausea, headache.

Warnings/Precautions: Sudden onset of sleep, cardiovascular (monitor patients with a history of cardiovascular disease), hallucinations/psychosis, impulse control disorders (consider dose reduction if occurs, dyskinesia.
Avoid sudden discontinuation/rapid dose reduction to reduce risk of withdrawal-emergent hyperpyrexia and confusion.

Contraindications: Nonselective MAO inhibitors

Interactions: Iron salts, dopamine D2 antagonists including metoclopramide (may reduce effectiveness of levodopa/carbidopa)

Administration: Levodopa-naïve patients, starting dose: 23.75 mg/95 mg three times daily; may increase to 36.25 mg/145 mg three times daily on fourth day of treatment.
Maximum dose: 61.25 mg/245 mg
Not interchangeable with other carbidopa-levodopa products. See label for instructions on switching patient from immediate-release carbidopa-levodopa. See PI for conversion from immediate-release carbidopa/levodopa to extended-release.

Dosage Form: Extended-release capsules

23.75 mg / 95 mg	36.25 mg / 145 mg	48.75 mg / 195 mg	61.25 mg / 245 mg
			

Generic available.

Dhivy (carbidopa and levodopa, fractionated tablet)
Treatment of Parkinson disease

Adverse Reactions: Dyskinesias (choreiform, dystonic, other involuntary movements); nausea

Warnings/Precautions: May cause falling asleep during activities of daily living; avoid sudden discontinuation or rapid dose reduction to reduce the risk of withdrawal-emergent hyperpyrexia and confusion; monitor patients with a history of cardiovascular disease; hallucinations/psychosis may occur; impulse control/compulsive behaviors: consider dose reduction or discontinue drug if impulse control disorders occur; may cause or exacerbate dyskinesia: consider dose reduction.

Contraindications: Nonselective MAO inhibitors

Interactions: Iron salts and dopamine D2 antagonists (e.g., metoclopramide) may reduce the effectiveness of carbidopa/levodopa.

Administration: Tablets scored for individualized dosing. Recommended starting dosage is one 25 mg/100 mg tablet three times daily. Increase dosage as needed by up to one whole tablet every day or every other day, up to a maximum dosage of eight whole tablet per day.

Dosage Form: Carbidopa 25 mg/levodopa 100 mg. Each tablet has three functional scores: each segment contains 6.25 mg carbidopa and 25 mg levodopa.

TREATMENT OF MOTOR SYMPTOMS AND OFF EPISODES IN PARKINSON DISEASE

Carbidopa/Levodopa/Entacapone Combination

Stalevo® (carbidopa/levodopa/entacapone – oral)

To substitute for immediate-release doses of 3 individual agents; To replace immediate-release carbidopa/levodopa (without entacapone) for patients experiencing "off" episodes (only for patients taking ≤ 600 mg levodopa and not experiencing dyskinesias).

Adverse Reactions: Dyskinesia; choreiform dystonic, and other involuntary movements; nausea. See individual agents for additional adverse reactions.

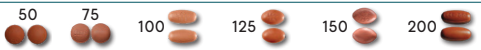
Warnings/Precautions: Adverse CNS effects (e.g., dyskinesia) may occur at lower dosages/sooner with combination levodopa/carbidopa/entacapone than with levodopa alone. Dyskinesia may require dosage reduction. May cause mental disturbances: monitor for depression, suicidal tendencies. Use with caution in patients with severe cardiovascular or pulmonary disease, bronchial asthma, renal, hepatic or endocrine disease. Monitor cardiac function in patients with history of MI and arrhythmias. May increase risk of upper gastrointestinal hemorrhage in patients with history of peptic ulcer. Sporadic cases of a symptom complex resembling neuroleptic malignant syndrome have been reported. May cause syncope, hypotension/orthostatic hypotension.

Contraindications: Nonselective monoamine oxidase (MAO) inhibitors are contraindicated for use with this agent and must be discontinued at least two weeks prior to initiating therapy. May be administered concomitantly with the MAO inhibitors with selectivity for MAO type B (e.g., selegiline). Narrow-angle glaucoma.

Interactions: Exercise caution when administering concomitantly with: anti-hypertensive agents; MAO inhibitors; tricyclic antidepressants; dopamine D2 receptor antagonists; phenytoin and papaverine; iron salts; metoclopramide; drugs that interfere with biliary excretion; pyridoxine.

Administration: Optimum daily dosage must be titrated/individualized. Tablet should not be fractionated. Administer only one tablet at each dosing interval. Maximum daily dose is eight tablets per day.

Dosage Form: Tablets



Dosage	Carbidopa (mg)	Levodopa (mg)	Entacapone (mg)
Stalevo 50	12.5	50	200
Stalevo 75	18.75	75	200
Stalevo 100	25	100	200
Stalevo 125	31.25	125	200
Stalevo 150	37.5	150	200
Stalevo 200	50	200	200

Generic available, same dosage.

PLEASE CONSULT COMPLETE PRESCRIBING INFORMATION FOR MORE DETAIL

TREATMENT OF MOTOR SYMPTOMS AND OFF EPISODES IN PARKINSON DISEASE

Inhaled Levodopa

On Demand Therapy

Inbrija® (levodopa inhalation powder)

Intermittent treatment of "off" episodes in patients with Parkinson disease treated with carbidopa/levodopa.

Adverse Reactions: (≥5% vs placebo): Cough, nausea, upper respiratory tract infection, discolored sputum.

Warnings/Precautions: May cause falling asleep during activities of daily living. Avoid sudden discontinuation or rapid dose reduction to reduce risk of withdrawal-emergent hyperpyrexia and confusion. May cause: Hallucinations/ exacerbation of psychosis. Patients with a major psychotic disorder should not be treated with inhaled levodopa. Impulse control disorders: consider dose reduction or stopping. May cause or exacerbate dyskinesia: consider adjusting levodopa therapy or stopping inhaled levodopa. Not recommended in patients with asthma, COPD, or other chronic underlying lung disease.

Contraindications: Contraindicated in patients currently taking or have recently taken (within 2 weeks) a nonselective MAO inhibitor.

Interactions: Monitor patients on MAO-B inhibitors for orthostatic hypotension. Dopamine D2 antagonists, isoniazid, and iron salts: may reduce effectiveness of inhaled levodopa.

Administration: For oral inhalation only (do not swallow capsules). Only use with Inbrija inhaler. Inhale contents of two capsules (84 mg) as needed for "off" symptoms, up to 5 times daily. Maximum dose per off period: 84 mg. Maximum recommended daily dosage of inhaled levodopa is 420 mg.

Dosage Form: Capsules for oral inhalation

42 mg levodopa for use with Inbrija inhaler.

No generic available at this time.

PLEASE CONSULT COMPLETE PRESCRIBING INFORMATION FOR MORE DETAIL

Comtan® (entacapone)

Adjunct to levodopa/carbidopa to treat end-of-dose "wearing-off" in patients with Parkinson disease.

Adverse Reactions: (≥3% vs placebo): Dyskinesia, urine discoloration, diarrhea, nausea, hyperkinesia, abdominal pain, vomiting, dry mouth.

Warnings/Precautions: Falling asleep during activities of daily living, somnolence; hypotension/orthostatic hypotension/syncope; hallucinations/psychotic behavior; diarrhea/colitis. May potentiate effects of levodopa and cause or exacerbate dyskinesia. Other events associated with dopaminergic therapy. Renal toxicity; hepatic impairment.

Interactions: Patients should ordinarily not be treated concomitantly with entacapone and a non-selective MAO inhibitor. Entacapone may be used concomitantly with a selective MAO inhibitor (e.g., selegiline).

Administration: 200 mg tablet administered concomitantly with each levodopa and carbidopa dose to a maximum of 8 times daily (200 mg x 8 = 1,600 mg per day). Clinical experience with daily doses above 1,600 mg is limited.

Dosage Form: Tablets

200 mg

Generic available, same dosage.

Tasmar (tolcapone)

Because of risk of potentially fatal, acute fulminant liver failure, recommended only for patients who experience "off" episodes while receiving levodopa therapy and who fail to respond to other conventional adjunctive therapies.

Adverse Reactions: Somnolence, dizziness, confusion, dyskinesia, vivid dreams, hallucinations, depression, fatigue, headache, diarrhea, gastrointestinal upset. Severe AEs can include hypotension, syncope, psychotic behaviors, poor impulse control, hallucinations, diarrhea, colitis, rhabdomyolysis, severe hepatotoxicity.

Warnings/Precautions: Because of risk of severe liver injury and because tolcapone, when it is effective, provides an observable symptomatic benefit, patients who fail to show substantial clinical benefit within 3 weeks of initiation of treatment should be withdrawn from tolcapone. Patients with severe dyskinesia or dystonia should be treated with caution. Conduct appropriate tests to exclude the presence of liver disease. Prescribers are strongly advised to monitor patients for evidence of emergent liver injury.

Contraindications: Should not be initiated if patient exhibits clinical evidence of liver disease or two SGPT/ALT or SGOT/AST values greater than upper limit of normal.

Interactions: Drugs metabolized by COMT: Consider dose reduction of α-methyldopa, dobutamine, apomorphine, and isoproterenol when used in combination with tolcapone.

Administration: 100 mg three times daily. Adjust upward based on tolerance and clinical effects to maximum 600 mg daily.

Dosage Form: Tablets

100 mg

PLEASE CONSULT COMPLETE PRESCRIBING INFORMATION FOR MORE DETAIL

Ongentys® (opicapone)

Adjunct to levodopa/carbidopa in patients with Parkinson disease experiencing "off" episodes.

Adverse Reactions: (≥4% vs placebo): Dyskinesia, constipation, increased blood creatine kinase, hypotension/syncope, decreased weight.

Warnings/Precautions: May cause arrhythmias, increased heart rate, and excessive changes in blood pressure when used concomitantly with drugs metabolized by (COMT).
May cause: Falling asleep during activities of daily living; hypotension/syncope; dyskinesia (or exacerbate; consider levodopa/dopaminergic dose reduction); hallucinations and psychosis; impulse control/compulsive disorders; withdrawal-emergent hyperpyrexia and confusion.

Contraindications: History of pheochromocytoma, paraganglioma, or other catecholamine-secreting neoplasms. Concomitant use with nonselective MAO inhibitors.

Administration: 50 mg administered orally once daily at bedtime. Patients should not eat food for 1 hour before and for at least 1 hour after opicapone dose.
Recommended dosage in patients with moderate hepatic impairment is 25 mg orally once daily at bedtime; avoid use in patients with severe hepatic impairment.

Dosage Form: Capsules

25 mg 50 mg

No generic available at this time.

Requip® XL (ropinirole IR and extended release – oral)

Treatment of Parkinson disease

Adverse Reactions: Early PD without levodopa: Nausea, dizziness, somnolence, headache, vomiting, syncope, fatigue, dyspepsia, viral infection, constipation, pain, increased sweating, asthenia, dependent/leg edema, orthostatic symptoms, abdominal pain, pharyngitis, confusion, hallucinations, urinary tract infections, abnormal vision. (See labeling for additional adverse events.)

Warnings: Sudden onset of sleep; symptomatic hypotension; hallucinations.

Precautions: Dyskinesia, renal impairment, hepatic impairment, withdrawal-emergent hyperpyrexia and confusion with dopaminergic therapy; fibrotic complications; melanoma; retinal pathology. Impulse control disorders may occur.

Interactions: Substrates of P450; carbidopa/levodopa; digoxin, theophylline, ciprofloxacin, estrogens, dopamine antagonists. Smoking: may increase clearance of ropinirole; dopamine antagonists (neuroleptics e.g. phenothiazines, butyrophenones, thioxanthenes) or metoclopramide may diminish effectiveness of ropinirole.

Administration: Titrate to maximum total daily dose of 24 mg/day.

Dosage Form: Extended-Release Tablets

Generic available, same dosage.

Mirapex®, Mirapex® ER (pramipexole immediate release and controlled release – oral)

Treatment of Parkinson Disease

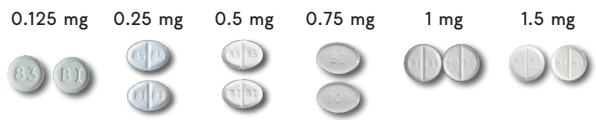
Adverse Reactions: Without levodopa: Somnolence, nausea, constipation, dizziness, fatigue, hallucinations, dry mouth, muscle spasms, peripheral edema.
With levodopa: Dyskinesia, nausea, constipation, hallucinations, headache, anorexia.

Warnings/Precautions: Sudden onset of sleep, Symptomatic orthostatic hypotension, impulse control disorders, hallucinations, dyskinesia, renal impairment, dopaminergic therapy complications.

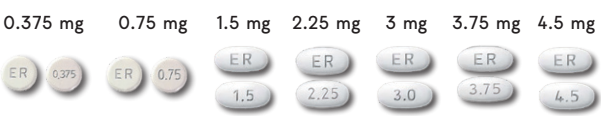
Interactions: Dopamine antagonists may diminish effectiveness of pramipexole.

Administration: Once daily with or without food. Do not crush tablet. May take immediate release up to 4x per day. Total dose not to exceed 4.5 mg.

Dosage Form: Tablets



Dosage Form: Extended-Release Tablets



Generics available for immediate- and extended-release, same dosage.

PLEASE CONSULT COMPLETE PRESCRIBING INFORMATION FOR MORE DETAIL

Neupro® (rotigotine – transdermal patch)

Treatment of Parkinson disease

Adverse Reactions: Nausea, vomiting, somnolence, application site reactions, dizziness, anorexia, disturbances in initiating and maintaining sleep, hyperhidrosis, visual disturbance, peripheral edema, dyskinesia.

Warnings/Precautions: Contains sodium metabisulfite: may cause allergic-type reactions; falling asleep during activities of daily living, somnolence; hallucinations/psychosis, dyskinesia; symptomatic postural hypotension/syncope especially during dose escalation; compulsive behaviors (consider dose reduction or stopping; elevated blood pressure/heart rate may occur; application site reactions (may be severe); hyperpyrexia and confusion may occur with sudden discontinuation or dose reduction. Avoid exposing application site to external heat sources (e.g., heating pads, hot tubs, saunas, heat lamps).

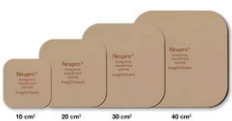
Contraindications: Known hypersensitivity

Interactions: Dopamine antagonists

Administration: Provides continuous delivery of rotigotine for 24 hours following application to intact skin.

Dosage Forms: Transdermal system

DOSE	ROTIGOTINE CONTENT
1 mg/24 hours:	2.25 mg
2 mg/24 hours:	4.5 mg
3 mg/24 hours:	6.75 mg
4 mg/24 hours:	9 mg
6 mg/24 hours:	13.5 mg
8 mg/24 hours:	18 mg



No generic available at this time.

TREATMENT OF MOTOR SYMPTOMS AND OFF EPISODES IN PARKINSON DISEASE

Dopamine Agonists

On Demand Therapy

Apokyn® (apomorphine hydrochloride for injection)

Hypomobility, "off" episodes ("end of dose wearing off" and unpredictable "on/off" episodes) associated with advanced Parkinson disease.

Adverse Reactions: (≥10% vs placebo): Yawning, drowsiness/somnolence, dyskinesias, dizziness/postural hypotension, rhinorrhea, nausea and/or vomiting, hallucination/confusion, edema/swelling of extremities.

Warnings/Precautions: SC use only (do not administer IV); Falling asleep during daytime activities/daytime somnolence; syncope, hypotension/orthostatic hypotension; falls; hallucinations or psychotic behavior; dyskinesia or exacerbation of dyskinesia, impulse control disorders; priapism. Coronary events: may prolong QTc and cause torsades de pointes or sudden death.

Contraindications: Concomitant use with 5HT3 antagonists, including antiemetics (e.g., ondansetron, granisetron, dolasetron, palonosetron), alosetron.

Interactions: Concomitant use of antihypertensive medications and vasodilators: may increase risk for hypotension, myocardial infarction, pneumonia, falls, and injuries.
Dopamine antagonists (neuroleptics, metoclopramide) may diminish effectiveness of apomorphine.

Administration: Starting dose 0.2 mL; first dose under medical supervision. Titrate to effect and tolerance. Doses must be separated by at least 2 hours. In renal impairment: reduce test dose, reduce starting dose to 0.1 mL.

Dosage Form: Single-patient use cartridges for SC injection 30 mg/3 mL (10 mg/mL)

SC=subcutaneous

PLEASE CONSULT COMPLETE PRESCRIBING INFORMATION FOR MORE DETAIL

Kynmobi® (apomorphine hydrochloride sublingual film)

Acute, intermittent treatment of "off" episodes in patients with Parkinson disease

Adverse Reactions: (≥10% vs placebo): Nausea, oral/pharyngeal soft tissue swelling, oral/pharyngeal soft tissue pain and paresthesia, dizziness, somnolence.

Warnings/Precautions: Nausea and vomiting; falling asleep during activities of daily living and daytime somnolence; syncope and hypotension/orthostatic hypotension (monitor blood pressure); oral mucosal irritation; falls; hallucinations/psychotic-like behavior; impulse control/impulsive behaviors; withdrawal-emergent hyperpyrexia and confusion (may occur with rapid dose reduction or withdrawal; may prolong QTc and cause torsades de pointes or sudden death.

Contraindications: Concomitant use of 5HT3 antagonists.

Interactions: Antihypertensive medications and vasodilators may increase risk for hypotension, myocardial infarction, falls and injuries; Dopamine antagonists may diminish effectiveness of apomorphine.

Administration: Initial dose must be supervised by healthcare provider. Dose range is 10 mg to 30 mg per dose sublingually as needed. Doses should be separated by at least 2 hours. Maximum 5 doses per day; maximum single dose 30 mg.

Dosage Form: Sublingual film

10 mg, 15 mg, 20 mg, 25 mg, 30 mg

No generic available at this time.

PLEASE CONSULT COMPLETE PRESCRIBING INFORMATION FOR MORE DETAIL

Azilect® (rasagiline – oral)

Treatment of Parkinson disease

Adverse Reactions: (≥3% vs placebo): Monotherapy: flu syndrome, arthralgia, depression, dyspepsia.
As adjunct without levodopa: peripheral edema, fall, arthralgia, cough, and insomnia.
As adjunct to levodopa: dyskinesia, accidental injury, weight loss, postural hypotension, vomiting, anorexia, arthralgia, abdominal pain, nausea, constipation, dry mouth, rash, abnormal dreams, fall, tenosynovitis.

Warnings/Precautions: May cause: hypertension (including severe hypertensive syndromes) at recommended doses; serotonin syndrome when used with antidepressants; falling asleep during activities of daily living, daytime drowsiness, and somnolence; hypotension, especially orthostatic; dyskinesia (or exacerbate dyskinesia, decreasing levodopa dose may lessen or eliminate this side effect); hallucinations and psychotic-like behavior; impulse control/compulsive behaviors; withdrawal-emergent hyperpyrexia and confusion.

Contraindications: Use in moderate/severe hepatic impairment; Concomitant use of meperidine, tramadol, methadone, propoxyphene dextromethorphan, St. John's wort, cyclobenzaprine, or another (selective or non-selective) MAO inhibitor. Fluoxetine, fluvoxamine. Wait at least 5 weeks after discontinuing before initiation of Azilect, especially if fluoxetine was used chronically.

Interactions: Meperidine: Risk of serotonin syndrome; dextromethorphan: risk of psychosis or bizarre behavior; MAO inhibitors: risk of non-selective MAO inhibition, hypertensive crisis.

Administration:
Monotherapy: 1 mg once daily
As adjunct without levodopa: 1 mg once daily
As adjunct to levodopa: 0.5 mg once daily. Increase dose to 1 mg daily as needed.
Patients taking ciprofloxacin or other CYP1A2 inhibitors: 0.5 mg once daily; patients with mild hepatic impairment: 0.5 mg once daily

Dosage Form: Tablets 0.5 mg 1 mg

Generic available, same dosage.

PLEASE CONSULT COMPLETE PRESCRIBING INFORMATION FOR MORE DETAIL

Xadago® (safinamide – oral)

Adjunct to levodopa/carbidopa to treat end-of-dose "wearing-off" in patients with Parkinson disease.

Adverse Reactions: (≥2% vs placebo): Dyskinesia, fall, nausea, insomnia.

Warnings/Precautions: May cause: hypertension (or exacerbate); serotonin syndrome when used with MAO inhibitors, antidepressants, or opioid drugs; falling asleep during activities of daily living; dyskinesia (or exacerbate); consider levodopa dose reduction; hallucinations and psychotic behavior; problems with impulse control/compulsive behaviors; withdrawal-emergent hyperpyrexia and confusion.

Contraindications: Severe hepatic impairment. Concomitant use of: other MAO inhibitors or drugs that are potent inhibitors of monoamine oxidase (e.g., linezolid); opioid drugs (e.g., tramadol, meperidine); selective norepinephrine reuptake inhibitors; tri-or tetra-cyclic or triazolopyridine antidepressants; cyclobenzaprine; methylphenidate, amphetamine, and derivatives; St. John's wort; dextromethorphan.

Interactions: Selective serotonin reuptake inhibitors: monitor patients for serotonin syndrome; sympathomimetic medications: monitor patients for hypertension; tyramine: risk of severe hypertension;substrates of breast cancer resistance protein (BCRP): potential increase in plasma concentration of BCRP substrate.

Administration: Initiate therapy with 1.25 mg once a day for at least 6 weeks. After 6 weeks, escalate to maximum 2.5 mg once daily if needed/tolerated. Avoid doses greater than 2.5 mg/day.

Dosage Form: Tablets

50 mg 100 mg

No generic available at this time.

Zelapar® (Selegiline – oral disintegrating tablets)

Management of patients with Parkinson disease being treated with levodopa/carbidopa who exhibit deterioration in the quality of their response to this therapy.

Adverse Reactions: (>3% vs placebo): Dizziness, nausea, pain, headache, insomnia, rhinitis, dyskinesia, back pain, stomatitis, dyspepsia, rash, skin disorders.

Warnings/Precautions: Due to risks associated with non-selective inhibition of MAO do not exceed 2.5 mg/day dose. Coadministration with antidepressants may cause severe CNS toxicity. Adverse orthostatic hypotension in geriatric patients (≥65 years). Monitor for melanoma. Exacerbation of levodopa-associated side effects. Contains phenylalanine. May irritate buccal mucosa. May cause or exacerbate dyskinesia. Use with caution in patients with known renal or hepatic impairment. Withdrawal-emergent hyperpyrexia and confusion has been reported with other antiparkinsonian therapy. Caution patients about risk of hallucination.

Contraindications: Concomitant use with meperidine; analgesics (tramadol, methadone, propoxyphene); dextromethorphan, other MAO inhibitors.

Interactions: In addition to contraindicated drugs above: Tricyclic antidepressants and selective serotonin reuptake inhibitors. Levodopa/carbidopa: see labeling re dyskinesia. Drugs that induce or inhibit cytochrome P450 enzymes: see labeling.

Administration: Initiate therapy with 1.25 mg once a day for at least 6 weeks. After 6 weeks, escalate dose to maximum 2.5 mg once a day if needed/tolerated. Avoid doses greater than 2.5 mg a day. Use within 3 months of opening pouch and immediately after opening individual blister.

Dosage Form: Tablets
1.25 mg orally disintegrating tablets

Generic available as 5 mg tablet and 5 mg capsule (not orally disintegrating).

Gocovri® (amantadine extended-release – oral)
(indicated for managing off episodes and levodopa induced dyskinesia)

- Treatment of dyskinesia in patients with Parkinson disease receiving levodopa-based therapy, with or without concomitant dopaminergic medications.
- Adjunctive treatment to levodopa/carbidopa in patients with Parkinson diseaes experiencing "off" episodes.

Adverse Reactions: (>10%): Hallucination, dizziness, dry mouth, peripheral edema, constipation, falls, orthostatic hypotension

Warnings/Precautions: Falling asleep during activities of daily living, suicidality and depression, hallucinations/psychotic behavior, dizziness/orthostasis, withdrawal emergent hyperpyrexia and confusion, impulse control

Contraindications: End-stage renal disease

Interactions: Other anticholinergic drugs: reduce dose if atropine-like effects occur; drugs affecting urinary pH: excretion increases with acidic urine; possible accumulation with urine change towards alkaline; live attenuated influenza vaccines: not recommended during use; alcohol: concomitant use not recommended.

Administration: Administer orally once daily at bedtime. Initial daily dose 137 mg; after 1 week, increase to recommended daily dose of 274 mg. Swallow capsule whole; may sprinkle contents on soft food. May be taken with or without food; avoid use with alcohol. Reduce dosage in patients with moderate or severe renal impairment.

Dosage Forms: Extended-release capsules

68.5 mg

137 mg

No generic available at this time.

PLEASE CONSULT COMPLETE PRESCRIBING INFORMATION FOR MORE DETAIL

Symmetrel (amantadine)

Treatment of parkinsonism and drug-induced extrapyramidal reactions.

Adverse Reactions: (5%–10%): Nausea, dizziness (lightheadedness), insomnia.

Warnings/Precautions: Because amantadine is primarily excreted in the urine, it accumulates in plasma and in the body when renal function declines. Amantadine dose should be reduced in patients with renal impairment and in individuals aged 65 or older. Amantadine dose may need reduction in patients with congestive heart failure, peripheral edema, or orthostatic hypotension.

Contraindications: Known hypersensitivity

Interactions: Coadministration with: CNS stimulants: Observe carefully. Agents with anticholinergic properties: May potentiate anticholinergic-like side effects of amantadine. Thioridazine: May worsen tremor in elderly patients with PD. Dyazide (triamterene/hydrochlorothiazide): May result in higher plasma amantadine concentration. Quinine or quinidine: Has been shown to reduce the renal clearance of amantadine by about 30%. Concurrent use with live attenuated influenza vaccine (LAIV) intranasal has not been evaluated. LAIV should not be administered within 2 weeks before or 48 hours after administration of amantadine unless medically indicated.

Administration: 100 mg twice daily when used alone. Onset of action is usually within 48 hours. Initial dose of 100 mg once daily is recommended for those with serious medical illnesses or receiving high doses of other PD drugs. After one or more weeks at 100 mg once daily, dose may be increased to 100 mg twice daily if necessary.

Dosage Form: Tablets 100 mg

PLEASE CONSULT COMPLETE PRESCRIBING INFORMATION FOR MORE DETAIL

Osmolex® ER (amantadine extended-release – oral)

Treatment of Parkinson disease

Adverse Reactions: (≥5%): Nausea, dizziness/ lightheadedness, insomnia.

Warnings/Precautions: Falling asleep during activities of daily living and somnolence; Suicidality and depression; Hallucinations/psychotic behavior. Dizziness/orthostatic hypotension; Withdrawal-emergent hyperpyrexia and confusion (avoid sudden discontinuation); Impulse control/compulsive behaviors: (gambling urges, sexual urges, uncontrolled spending or other urges).

Contraindications: Patients with end-stage renal disease
Interactions: Anticholinergic drugs: increased risk of anticholinergic effects, may require dose reductions.
Drugs affecting urinary pH: excretion increases with acidic urine; possible accumulation with urine change towards alkaline; Live attenuated influenza vaccines not recommended during use. Concomitant alcohol use not recommended, may increase CNS effects.

Administration: Initial dosage is 129 mg orally once daily in the morning. Dosage may be increased in weekly intervals. Maximum daily dose 322 mg. Swallow tablets whole; do not chew, crush, or divide. Dosing frequency reduction and monitoring required for renal impairment.

Dosage Form: Extended-release tablets

129 mg 193 mg 258 mg

Immediate-release amantadine is available in generic as 100 mg tablet and capsule and 50 mg/5 mL oral solution.

PLEASE CONSULT COMPLETE PRESCRIBING INFORMATION FOR MORE DETAIL

Artane (trihexphenidyl)

Adjunct to carbidopa/levodopa.

Adverse Reactions: Minor mouth dryness, blurred vision, dizziness, mild nausea or nervousness occur in 30%-50% of patients. Reactions tend to become less pronounced or disappear as treatment continues. Other: cognitive dysfunction (confusion, impaired memory), constipation, drowsiness, urinary hesitancy/retention, tachycardia, pupillary dilation, increased intraocular pressure, choreiform movements, weakness, vomiting, headache.

Warnings/Precautions: Patients should have gonioscope evaluation prior to initiation and close monitoring of intraocular pressures. Use of anticholinergic drugs may precipitate angle closure with an increase in intraocular pressure. If blurring of vision occurs, the possibility of narrow angle glaucoma should be considered. Administer with caution in hot weather; monitor for signs of anhidrosis. Severe anhidrosis and fatal hyperthermia have occurred with the use of anticholinergics.

Contraindications: Narrow-angle glaucoma. Blindness after long-term use due to narrow-angle glaucoma has been reported.

Interactions: Cannabinoids, barbiturates, opiates, and alcohol: May have additive effects. Alcohol or other CNS depressants with anticholinergics: may cause increased sedative effects. MAO inhibitors, tricyclic antidepressants with significant anticholinergic activity: may intensify anticholinergic effect.

Administration: In elderly patients with PD start on low dose (1 mg), observe closely first day. Dose may be increased by 2 mg increments at intervals of 3 to 5 days up to a total of 6 to 10 mg daily. Best tolerated if divided into 3 doses and taken at mealtimes. For high doses (>10 mg/day), divide into 4 parts and administer at mealtimes and at bedtime.

Dosage Forms: Tablets / Elixir — 2 mg — 5 mg

2 mg/5 mL elixir

PLEASE CONSULT COMPLETE PRESCRIBING INFORMATION FOR MORE DETAIL

Cogentin® (benztropine mesylate)

Adjunct in the therapy in all forms of parkinsonism

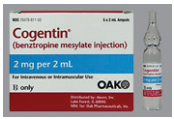
Adverse Reactions: Cardiovascular: tachycardia; Digestive: Paralytic ileus, constipation, vomiting, nausea, dry mouth; Nervous system: toxic psychosis, including confusion, disorientation, memory impairment, visual hallucinations; exacerbation of pre-existing psychotic symptoms; nervousness; depression; listlessness; numbness of fingers; Special senses: blurred vision, dilated pupils; urogenital: urinary retention, dysuria; Metabolic/immune or skin: allergic reaction (rash); Other: heat stroke, hyperthermia, fever.

Warnings: Dry mouth, blurred vision, nausea, vomiting and nervousness; anhidrosis; dysuria, musculoskeletal weakness (high doses), neurologic (at high doses), tardive dyskinesia (long-term treatment); impaired driving; glaucoma; intensification of mental disorders. Patients with poor mental outlook are usually poor candidates for therapy.

Interactions: Additive anticholinergic effects (e.g. fatal paralytic ileus) may occur if benztropine mesylate is used concurrently with other drugs such as phenothiazines and/or tricyclic antidepressants. Other interactions: Antiarrhythmics, cholinesterase inhibitors, MAO inhibitors, motion sickness drugs, narcotic analgesics, potassium chloride, tricyclic antidepressants.

Administration: Ampules for injection (IV and intramuscular use): Usual daily dose is 1 to 2 mg with a range of 0.5 to 6 mg parenterally. Individualize dosage according to age, weight, type of parkinsonism. Generally, older patients and thin patients cannot tolerate large doses.

Dosage Form:
1 mg/mL ampules for injection



Generic available as 1 mg tablet or 0.4 mg/mL oral solution.
Tablets: Titrate gradually from 0.5 mg at 5- to 6-day intervals. Maximum dose 6 mg. Oral solution: Titrate gradually from 1.25 mL oral solution. Maximum dose 15 mL oral solution.

Nourianz® (istradefylline – oral)

Adjunctive treatment to levodopa/carbidopa in adult patients with Parkinson disease experiencing "off" episodes.

Adverse Reactions: (≥5% vs placebo): dyskinesia, dizziness, constipation, nausea, hallucination, and insomnia.

Warnings/Precautions: Dyskinesia or exacerbation of dyskinesia; hallucinations/psychotic behavior; impulse control/compulsive behaviors.

Interactions: Strong CYP 3A4 inhibitors: recommended maximum dosage with concomitant use is 20 mg once daily. Strong CYP 3A4 inducers: avoid concomitant use.

Administration: Recommended dosage is 20 mg orally once daily. May be increased to a maximum of 40 mg once daily. Maximum recommended dosage with moderate hepatic impairment: 20 mg once daily (avoid in patients with severe hepatic impairment). Recommended dose 40 mg once daily in patients who smoke 20 or more cigarettes per day or equivalent.

Dosage Form: Tablets

20 mg 40 mg

No generic available at this time.

TREATMENT OF COGNITIVE AND PSYCHIATRIC SYMPTOMS OF PARKINSON DISEASE*

Anticholinesterase Inhibitors

Exelon® Patch (rivastigmine – transdermal patch)

Mild-to-moderate dementia associated with Parkinson Disease

Adverse Reactions: (5% or higher vs placebo): Nausea, vomiting, diarrhea

Warnings/Precautions: Hospitalization and, rarely, death have been reported due to application of multiple patches at same time. Instruct patients on proper dosing and administration.
GI adverse reactions may include significant nausea, vomiting, diarrhea, anorexia/decreased appetite, and weight loss and may necessitate treatment interruption. Serious dehydration may result from prolonged vomiting or diarrhea. Application-site reactions may occur: discontinue if site reactions spread beyond patch size, in case of more intense local reaction (e.g., increasing erythema, edema, papules, vesicles), and if symptoms do not significantly improve within 48 hours after patch removal.

Contraindications: History of application-site reactions with rivastigmine transdermal patch suggesting allergic contact dermatitis.

Interactions: Concomitant use with metoclopramide, beta-blockers, or cholinomimetics and anticholinergic medications not recommended.

Administration: Apply patch on intact skin for a 24-hour period; replace with new patch every 24 hours. Rotate application site daily.
Initial Dose: 4.6 mg/24 hours
Titration: After at least 4 weeks if tolerated, increase dose to 9.5 mg/24 hours (minimum effective dose). After an additional of 4 weeks, may increase to maximum of 13.3 mg/24 hour dose.

Dosage Form: Patch

4.6 mg/24 hours
9.5 mg/24 hours
13.3 mg/24 hours

Generic patch available (same dosage).
Generic oral capsule available in 1.5 mg, 3 mg, 4.5 mg, 6 mg.
Oral is given 2x daily with meals to max 12 mg/day.
See product literature for more dosing information.
*drugs with a specific indication in PD

PLEASE CONSULT COMPLETE PRESCRIBING INFORMATION FOR MORE DETAIL

TREATMENT OF COGNITIVE AND PSYCHIATRIC SYMPTOMS OF PARKINSON DISEASE*

NMDA Receptor Antagonists

Nuedexta® (dextromethorphan and quinidine – oral)

Treatment of pseudobulbar affect

Adverse Reactions: (≥3%, 2-fold greater than placebo): Diarrhea, dizziness, cough, vomiting, asthenia, peripheral edema, urinary tract infection, influenza, increased gamma-glutamyltransferase, flatulence.

Warnings/Precautions: Risk of thrombocytopenia, hypersensitivity reactions, hepatitis (discontinue). Monitor ECG if concomitant use of drugs that prolong QT interval cannot be avoided or if concomitant CYP3A4 inhibitors are used. Monitor ECG in patients with left ventricular (LV) hypertrophy or LV dysfunction. Adjust dose of CYP2D6 substrate or use alternative treatment. Take precautions to reduce fall risk due to dizziness. Use with selective serotonin reuptake inhibitors or tricyclic antidepressants increases the risk of serotonin syndrome (discontinue if occurs). Anticholinergic effects of quinidine: Monitor for worsening in myasthenia gravis and other sensitive conditions.

Contraindications: Concomitant use with quinidine, quinine, or mefloquine. Patients with history of quinidine, quinine or mefloquine-induced thrombocytopenia, hepatitis, or other hypersensitivity reactions. Patients with known hypersensitivity to dextromethorphan. Concomitant use with MAO inhibitor. Allow 14 days after stopping dextromethorphan/quinidine before starting MAO inhibitor. Prolonged QT interval, congenital long QT syndrome, history suggestive of torsades de pointes, or heart failure. Complete atrioventricular (AV) block without implanted pacemaker, or patients at high risk of complete AV block. Concomitant use with drugs that both prolong QT interval and are metabolized by CYP2D6 (e.g., thioridazine or pimozide).

Interactions: Desipramine: Exposure increases 8-fold. Reduce desipramine dose and adjust based on clinical response.
Paroxetine: Exposure increases 2-fold. Reduce paroxetine dose and adjust based on clinical response.
Digoxin: Increased digoxin substrate plasma concentration may occur.

Administration:
Starting dose: one capsule daily by mouth for 7 days.
Maintenance dose: After 7 days, 1 capsule every 12 hours

Dosage Form: Capsules
Dextromethorphan hydrobromide 20 mg/quinidine sulfate 10 mg

*drugs with a specific indication in PD. No generic available at this time.

PLEASE CONSULT COMPLETE PRESCRIBING INFORMATION FOR MORE DETAIL

TREATMENT OF COGNITIVE AND PSYCHIATRIC SYMPTOMS OF PARKINSON DISEASE*

Atypical Antipsychotic – 5-HT_{2a} Inverse Agonists

Nuplazid® (pimavanserin – oral)

Treatment of hallucinations and delusions associated with Parkinson disease psychosis.

Adverse Reactions: (≥5% and twice rate of placebo): Peripheral edema, confusional state

Boxed Warning: Increased mortality in elderly patients with dementia-related psychosis. Elderly patients with dementia-related psychosis treated with antipsychotic drugs are at an increased risk of death.

Warnings: Pimavanserin is not approved for treatment dementia-related psychosis unrelated to hallucinations/ delusions associated with PD psychosis.
Increases in QT interval; avoid use with drugs that also increase the QT interval and in patients with risk factors for prolonged QT interval.

Interactions: Strong CYP3A4 inhibitors (e.g., ketoconazole): Reduce pimavanserin dose to 10 mg once daily.
Strong or Moderate CYP3A4 Inducers: Avoid concomitant use of pimavanserin.

Administration: 34 mg taken orally once daily, without titration.
Capsules may be swallowed whole or opened and entire contents sprinkled over a tablespoon of certain soft foods.

Dosage Form: Tablets

10 mg 

Dosage Form: Capsules

34 mg 

*drugs with a specific indication in PD. No generic available at this time.

PLEASE CONSULT COMPLETE PRESCRIBING INFORMATION FOR MORE DETAIL

TREATMENT OF SIALORRHEA AND CERVICAL DYSTONIA

Neuromuscular Blocking Agents

Myobloc® (rimabotulinumtoxinB (solution for injection) sialorrhea and CD)

- Treatment of cervical dystonia to reduce severity of abnormal head position and neck pain associated with cervical dystonia in adults.
- Treatment of chronic sialorrhea in adults.

Adverse Reactions: (>5% and more common than placebo):
Dry mouth, dysphagia

Boxed Warning: Effects of botulinum toxin may spread from area of injection to produce symptoms consistent with botulinum toxin effects. Symptoms have been reported hours to weeks after injection. Swallowing and breathing difficulties can be life threatening; there have been reports of death. See prescribing information.

Warnings/Precautions: Potency units are specific to the preparation and assay method: units are not interchangeable with those of other botulinum toxin agents. Hypersensitivity reactions; dysphagia and breathing difficulties.

Contraindications: Known hypersensitivity to any botulinum toxin product or components in the formulation.
Infection at the proposed injection site (could lead to severe local or disseminated infection).

Interactions: Co-administration with aminoglycosides or other agents interfering with neuromuscular transmission may potentiate effects of neuromuscular blocking agent; Co-administration or overlapping of botulinum toxin serotypes (within 4 months) may potentiate neuromuscular paralysis.

Administration: Chronic sialorrhea: 1,500 to 3,500 units; 500 to 1,500 units per parotid gland and 250 units per submandibular gland; no more frequent than every 12 weeks
Cervical dystonia: 2,500 to 5,000 units divided among affected muscles.
Recommended total dosage is 2,500 units to 5,000 units divided among effected muscles

Dosage Form: Solution in single-dose vials.
Ready to use (no reconstitution needed).
Carton with one single-use vial:
2,500 Units/0.5 mL
5,000 Units/mL
10,000 Units/2 mL

PLEASE CONSULT COMPLETE PRESCRIBING INFORMATION FOR MORE DETAIL

Xeomin (incobotulinumtoxinA (solution for injection) sialorrhea and CD)

Chronic sialorrhea, cervical dystonia, blepharospasm

Adverse Reactions: See warnings and precautions

Boxed Warning: Effects of botulinum toxin may spread from area of injection to produce symptoms consistent with botulinum toxin effects. Symptoms have been reported hours to weeks after injection. Swallowing and breathing difficulties can be life threatening; there have been reports of death. See prescribing information.

Warnings/Precautions: Potency units are specific to the preparation and assay method: units are not interchangeable with those of other botulinum toxin agents. Hypersensitivity reactions; dysphagia and breathing difficulties; human albumin and transmission of viral diseases.

Contraindications: Known hypersensitivity to any botulinum toxin product or components in the formulation.
Infection at the proposed injection site (could lead to severe local or disseminated infection).

Interactions: Aminoglycosides/agents interfering with neuromuscular transmission (co-administration should be performed with caution); use of anticholinergic drugs (may potentiate systemic anticholinergic effects); other botulinum neurotoxin products (effect of administering different botulinum toxin agents at the same time or within several months is unknown); muscle relaxants.

Administration: Chronic sialorrhea: Recommended total dose is 100 units per treatment session (30 units per parotid gland and 20 units per submandibular gland) no more frequent than every 16 weeks.
Cervical dystonia: Initial dose 120 units per treatment session
Blepharospasm: Inital dose 50 units (25 units per eye)
No more frequent than ever 12 weeks for cervical dystonia and blepharospasm.

Dosage Form: Lyophilized powder for solution

Carton with one single-use vial:
50 units
100 units

PLEASE CONSULT COMPLETE PRESCRIBING INFORMATION FOR MORE DETAIL

Botox (onabotulinumtoxinA)

Cervical dystonia in adult patients, to reduce the severity of abnormal head position and neck pain

Adverse Reactions: Cervical dystonia (≥5% and >placebo): Dysphagia, upper respiratory infection, neck pain, headache, increased cough, flu syndrome, back pain, rhinitis.

Warnings/Precautions: Distant spread of toxin: Effects of botulinum toxin may spread from area of injection to produce symptoms consistent with botulinum toxin effects, hours to weeks after injection. Swallowing and breathing difficulties can be life-threatening and there have been reports of death. Symptoms can occur in adults, particularly those with underlying conditions that would predispose them to these symptoms.
Concomitant neuromuscular disorder may exacerbate clinical effects of treatment. Use with caution in patients with compromised respiratory function. Risk of corneal exposure and ulceration. Retrobulbar hemorrhages and compromised retinal circulation. Potency units are not interchangeable with other preparations of botulinum toxin products.

Contraindications: Hypersensitivity; infection at proposed injection site.

Interactions: Closely observe patients receiving concomitant treatment of BOTOX and aminoglycosides or other agents interfering with neuromuscular transmission (e.g., curare-like agents), or muscle relaxants, because effect of BOTOX may be potentiated.

Administration: Cervical dystonia: Base dosing on the patient's head and neck position, localization of pain, muscle hypertrophy, patient response, and adverse event history; use lower initial dose in botulinum toxin naïve patients.

Dosage Form: Single-use, sterile vacuum-dried powder for reconstitution only with sterile, non-preserved 0.9% Sodium Chloride Injection USP prior to injection.

50 units
100 units
200 units

PLEASE CONSULT COMPLETE PRESCRIBING INFORMATION FOR MORE DETAIL

Dysport (abobotulinumtoxinA) for injection, for intramuscular use

Cervical dystonia in adults

Adverse Reactions: Cervical dystonia (≥5%): Muscular weakness, dysphagia, dry mouth, injection site discomfort, fatigue, headache, musculoskeletal pain, dysphonia, injection site pain, eye disorders.

Warnings/Precautions: Distant spread of toxin: Effects of botulinum toxin may spread from area of injection to produce symptoms consistent with botulinum toxin effects, hours to weeks after injection. Swallowing and breathing difficulties can be life-threatening and there have been reports of death. Symptoms can occur in adults, particularly those with underlying conditions that would predispose them to these symptoms. Immediate medical attention may be required in cases of respiratory, speech or swallowing difficulties. Recommended dose and frequency of administration should not be exceeded. Concomitant neuromuscular disorder may exacerbate clinical effects of treatment. Potency units are not interchangeable with other preparations of botulinum toxin products.

Contraindications: Hypersensitivity to botulinum toxin products or cow's milk protein.

Interactions: Closely observe patients receiving concomitant use of DYSPORT and aminoglycosides or other agents interfering with neuromuscular transmission or muscle relaxants, because effect of DYSPORT may be potentiated. Anticholinergic drugs may potentiate systemic anticholinergic effects. Effect of administering different botulinum neurotoxins during the course of treatment with DYSPORT is unknown.

Administration: Cervical dystonia: Initial dose is 500 Units given intramuscularly as a divided dose among the affected muscles. Re-treatment every 12 to 16 weeks or longer, as necessary, based on return of clinical symptoms with doses between 250 Units and 1000 Units to optimize clinical benefit. Re-treatment should not occur in intervals of less than 12 weeks. Titrate in 250 unit steps according to patient's response. Once reconstituted, store in original container in refrigerator at 2°C to 8°C (36°F to 46°F) and use within 24 hours. Do not freeze after reconstitution. After reconstitution, product should be used for only one injection session and for only one patient.

Dosage Form: Lyophilized powder in a single-dose vial

300 units
500 units

PLEASE CONSULT COMPLETE PRESCRIBING INFORMATION FOR MORE DETAIL

TREATMENT OF NEUROGENIC ORTHOSTATIC HYPOTENSION

Norepinephrine Prodrugs

Northera® (droxidopa – oral)

Orthostatic dizziness, lightheadedness, "feeling about to black out" in adult patients with symptomatic neurogenic orthostatic hypotension caused by primary autonomic failure. (Effectiveness beyond 2 weeks of treatment has not been established).

Adverse Reactions: (> 5% and ≥3% vs placebo): headache, dizziness, nausea, hypertension.

Boxed Warning: Supine hypertension: Monitor supine blood pressure prior to and during treatment and more frequently when increasing doses. Elevate head of bed to reduce risk of supine hypertension. Blood pressure should be measured in this position. If supine hypertension cannot be managed by elevation of bed, reduce or discontinue.

Warnings: Supine hypertension (see boxed warning). Hyperpyrexia and confusion. May exacerbate symptoms in patients with existing ischemic heart disease, arrhythmias, and congestive heart failure. Allergic reactions.

Interactions: Use of DOPA decarboxylase inhibitors may require dose adjustments for droxidopa.

Administration: Starting dose: 100 mg three times during the day. Titrate by 100 mg three times daily. Maximum dose: 600 mg three times daily. Take consistently with or without food. Take capsule whole. Elevate head of bed, give last dose at least 3 hours prior to bedtime to reduce potential for supine hypertension and give the last dose at least 3 hours prior to bedtime.

Dosage Form: Capsules

100 mg 200 mg 300 mg

Generic available, same dosage.

Indication: Adjunctive therapy in reducing some of the symptoms in individuals with levodopa-responsive Parkinson disease of at least 4 years' duration not adequately controlled with medication, including motor complications of recent onset (from 4 months to 3 years) or motor complications of longer-standing duration. Tremor not adequately controlled by medications in patients diagnosed with essential tremor or PD.

Risks include: Brain hemorrhage, including stroke; infection; device malfunction; lack of benefit for certain symptoms (e.g. freezing); headache, worsening mental or emotional status.

Method: Unilateral or bilateral stimulation of the subthalamic nucleus or internal globus pallidus.

Available devices:

Medtronic
DBS Systems

Boston Scientific
Vercise DBS
Systems

Abbott Infinity
DBS System

PLEASE CONSULT COMPLETE PRESCRIBING INFORMATION FOR MORE DETAIL

Duopa® (carbidopa/levodopa enteral suspension pump)

Treatment of motor fluctuations in patients with advanced Parkinson disease

Adverse Reactions: Complications of device insertion, nausea, depression, peripheral edema, hypertension, upper respiratory tract infection, oropharyngeal pain, atelectasis, incision site erythema.

Warnings/Precautions: Gastrointestinal procedure-related complications; sudden onset of sleep; monitor for orthostatic hypotension; hallucinations/psychosis/confusion; impulse control disorders; monitor for depression/suicidality; avoid sudden discontinuation, rapid dose reduction to reduce the risk of withdrawal-emergent hyperpyrexia/confusion; may cause or exacerbate dyskinesia; monitor for signs, symptoms of peripheral neuropathy.

Contraindications: Nonselective MAO inhibitors

Interactions: Selective MAO-B inhibitors: may cause orthostatic hypotension; Antihypertensive drugs: may cause symptomatic postural hypotension; Dopamine D2 receptor antagonists, isoniazid, iron salts, high-protein diet: may reduce effectiveness of carbidopa/levodopa.

Administration: Administered into jejunum through percutaneous endoscopic gastrostomy with jejunal tube (PEG-J) with CADD®-Legacy 1400 portable infusion pump

Dosage Form: Single-use cassettes
4.63 mg carbidopa (as 5 mg monohydrate)/20 mg levodopa per mL of enteral suspension
Each cassette contains approximately 100 mL of suspension

Dosage Information: Maximum recommended daily dose is 2000 mg levodopa (i.e., one cassette per day) administered over 16 hours.
Prior to initiating, convert patients from all forms of levodopa to oral immediate-release carbidopa-levodopa tablets (1:4 ratio); titrate dose based on clinical response.

No generic available at this time.

Index By Brand

Index By Generic Name

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