

PHARMACOLOGIC TREATMENTS OF PARKINSONS DISEASE NM PHARMACISTS ASSOCIATION

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DISCLOSURES

I have no relationships to disclose.

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OBJECTIVES

- Describe pathophysiology of Parkinson
- Review dosing complexity of medications
- Describe pharmacologic strategies utilized in the treatment of Parkinson
- Recognize common preparations
- Recognize medications to avoid in Parkinsons

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WHAT WORD COMES TO MIND WHEN YOU THINK
OF PARKINSONS?

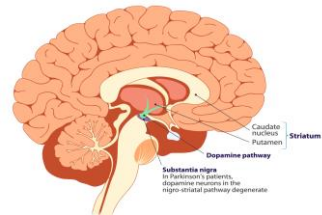
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HISTORY

In 1817 James Parkinson, characterized the tremor
in his essay as the shaking palsy as "involuntary tremulous
motion in parts not in action"

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Substantia nigra pars compacta



PD

ParkinsonsDisease.net / How Does Parkinson's Disease Develop?

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CARBIDOPA/LEVODOPA (SINEMET)

- GOLD Standard
- "Motor pill"
- Dopamine precursor
- This should be first medication started
- Start on immediate release
- Compare other therapies against carb/levo

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Carbidopa/Levodopa in Parkinson's: Physiological Pathways

Carbidopa/Levodopa Oral Ingestion

Levodopa replaces Dopamine in Parkinson's

Levodopa crosses the BBB, Carbidopa and Dopamine do not penetrate the BBB

Carbidopa/Levodopa absorbed in the small bowel of the gastrointestinal tract

Carbidopa/Levodopa binds large neutral amino acid (LNAA) transport system

Carbidopa inhibits peripheral decarboxylation of Levodopa to Dopamine, which helps Levodopa to reach the Blood Brain Barrier (BBB)

Negative conditions that affect amount and speed of Levodopa entering brain:

- Peripheral Aromatic L- amino acid decarboxylase (AADCC)
- Catechol O-methyltransferase (COMT)
- Speed of gastric emptying is slowed by eating food;
- Protein-rich meals may interfere.

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SLOW LOW TITRATION RECOMMENDED

	7 AM	12 PM	5 PM
Week 1			1/2 tab
Week 2	1/2 tab		1/2 tab
Week 3	1/2 tab	1/2 tab	1/2 tab
Week 4	1/2 tab	1/2 tab	1 tab
Week 5	1 tab	1/2 tab	1 tab
Week 6	1 tab	1 tab	1 tab

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COMMON SIDE EFFECTS

NAUSEA & VOMITING

Make sure taking with food not an empty stomach

If they continue to have nausea then they need lodasyn/carbidopa

This is in addition to current carb/levo dose and 1 tab per carb/levo dose

CONSTIPATION

Slower motility due to age

Slower motility due to Parkinsons

Anticholinergic effects of lidoopa

Carb/levo unable to be absorbed in small intestine

HYPOTENSION

Please check sitting and standing BPs on PD patients

Directly related to PD

Directly related to Sinemet

Fludrocortisone OR midodrine

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LESS COMMON SIDE EFFECTS

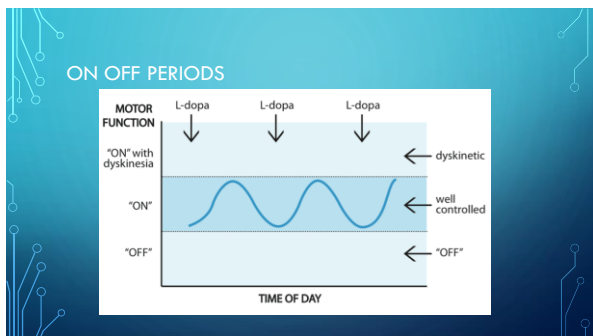
- Hallucination
- Dyskinesias- involuntary

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POLL QUESTIONS

- How do we treat dyskinesias?
- How do we treat hallucinations?

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Rytary ER capsule that combines IR and ER beads	Carbidopa/levodopa extended release	Carbidopa/levodopa immediate release
Amantadine IR/ER, Olanzapine or Clozapine	Pramipexole/Madopex IR and ER	Ropinirole/Requip IR and ER
Rasagiline/Neuro	Apomorphine/Avanyn	Rasagiline/Avicta
Safinamide/Eldapryl	Safinamide/Xadaga	Levodopa/Amantadine
Entacapone/Comtan	Carb. lero entar/Stalevo	Opicapone/Chigentes
Carb. lero entar/duoopa	Levodopa inhalation powder/Tbraja	Apomorphine SL/Kymovio

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MEDICATIONS THAT MAY BE CONTRAINDICATED IN PARKINSON DISEASE

- D2 Receptor Blockers
 - Antipsychotics
 - Nausea/GI
- Medications that may cause confusion
 - Anticholinergics
 - Benzodiazepines
 - Muscle relaxer
 - Sleep meds
 - Pain meds
- Antidepressants

• https://www.apdaparkinson.org/wp-content/uploads/2018/05/APDA-Meds_to_Avoid.pdf

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WHEN TO REFER

- Complicated history and exam
- Reasonable trial of basic medications
- PD vs ET OR PD and ET
- Patient not tolerating meds
- Surgical candidacy

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COMPREHENSIVE MOVEMENT DISORDER CENTER

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- <https://parkinsondisease.org/health-care/medication/meds-to-avoid>
- <https://www.parkinson.org/understanding-parkinsons-disease/medication/meds-to-avoid>
- Cleveland Clinic Center for Continuing Education/Trentor <https://www.clevelandclinicmed.edu/health/courses/management-neurology/trentor/>

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