Dopaminergic Therapy in Early Parkinson Disease

Initial therapy selection, prescribing levodopa, dopamine agonists and MAO-B inhibitors, adverse-effect monitoring, and key comparative evidence.

2021 AAN Practice Guideline
Dopaminergic Therapy for Motor Symptoms in Early Parkinson Disease
AAN Guideline Subcommittee · Neurology 2021;97:942–957

LEVEL — A · Must | B · Should | C · May | Avoid / Should Not

1 Initial Therapy Selection

B	**Counsel** on benefits/risks of levodopa, dopamine agonists (DAs), and MAO-B inhibitors based on individual disease characteristics.
B	Recommend **levodopa** as the initial preferential dopaminergic therapy for motor symptoms.
C	May prescribe **DAs** as initial therapy in select patients <60y at higher dyskinesia risk.
B	**Do not prescribe DAs** in age >70y, prior ICD history, preexisting cognitive impairment, EDS, or hallucinations.

2 Prescribing Levodopa

B	Prescribe **immediate-release** levodopa rather than controlled-release or levodopa/carbidopa/entacapone.
B	Use the **lowest effective dose** to minimize dyskinesia and other adverse effects.
B	**Routinely assess** motor response, dyskinesia, motor fluctuations, ICDs, EDS, postural hypotension, nausea, hallucinations.
B	Counsel that higher dosages more likely cause dyskinesia; food timing affects absorption more in later disease than at initiation.

3 Prescribing Dopamine Agonists — Safety

B	**Before starting:** inform patient/caregiver of ICDs, EDS, sudden-onset sleep, nausea, postural hypotension, hallucinations.
B	**Baseline screen** for cognitive impairment, EDS, sudden sleep, hallucinations, orthostatic hypotension, ICD risk factors before prescribing; repeat screening at follow-up and involve caregivers.
C	May use **QUIP** (ICDs) and **Epworth Sleepiness Scale** (EDS ≥10) — validated, patient-completed, <10 min.

4 DA Selection, Dosing & Tapering

B	Integrate **patient preference** — cost, frequency, oral vs. transdermal; no strong efficacy difference between agents.
B	Prescribe **lowest dose** providing benefit — start low, titrate slowly; target 6–9 mg/d ropinirole, 1.5 mg/d pramipexole, or 4 mg/24h rotigotine.
B	**Taper/discontinue** for disabling ICDs, EDS, sudden sleep, cognitive impairment, or hallucinations — monitor for withdrawal syndrome, decrease gradually when possible.

5 Prescribing MAO-B Inhibitors

B	Counsel that **levodopa gives greater motor benefit** than MAO-B inhibitors — discuss to inform treatment decisions.
C	May prescribe as **initial therapy** for mild motor symptoms in early PD.

6 Key Comparative Evidence

Levodopa > DAs on UPDRS-III through 5y, with more dyskinesia but no disease-modifying effect for any agent. DAs possibly cause more hallucinations, but the difference is small over 5 years.

ICD risk is higher with DAs than levodopa — risk factors: male sex, younger age, prior ICD/mood disorder, family history. >60% on MAO-B monotherapy need additional therapy within 2–3 years.

Pringsheim T, Day GS, Smith DB, et al. Dopaminergic Therapy for Motor Symptoms in Early Parkinson Disease Practice Guideline Summary: A Report of the AAN Guideline Subcommittee. *Neurology.* 2021;97(20):942–957.