

Reducing harm from omitted and delayed Parkinson's Disease medication

ISSUE

Parkinson's Disease (PD) is the fastest growing neurological disorder globally, with numbers expected to double by 2040.¹ PD medication is time critical medication.² Delays in receiving PD medication can cause "off" episodes, triggering rigidity and tremor in the patient.³ Other associated complications include: confusion, worsening of PD symptoms and distress.^{4,5,6} Omitted or delayed doses can impair patients' swallow, increase aspiration risk, render them immobile, prone to falls and fractures, leading to permanent reduction in their baseline condition, with potential progression to Neuroleptic Malignant Syndrome, or death.

EVIDENCE OF HARM

The following is a patient's own experience following the delayed prescribing and administration of PD medication:

'Four years ago I was walking with the aid of a Zimmer frame. I fell and was admitted to hospital with a broken arm. I didn't get my Parkinson's medication for a day and when I did – not the right dose. I left hospital in a wheelchair, never to walk again. The right medication on time with early mobilisation would have seen me walk again, after all I didn't break my leg.'

HOW TO REDUCE THE RISKS

Prescribing PD medication:

- Urgently **obtain an accurate medication history**^{6,7} (from patient/carer, patient's [Parkinson's Passport](#)⁷, Pharmacy, GP)
 - Do not stop** these medicines abruptly.^{4,7}
 - State the **exact times** on the medication chart (replicating the patient's unique regimen)⁷
 - Manage nil-by-mouth (NPO) status** – obtain prompt specialist guidance* for patients with PD with swallowing difficulties or those in the peri-operative period, before adjusting the medication regimen. **Even when fasting, patients with PD should not miss doses.** Minor delays in dosing (up to 30 minutes) can have a significant impact on symptom control.^{4,6,7}
 - Dopamine agonist patch (rotigotine) formulations, and apomorphine may be suitable options when patients with PD are NPO.⁹ Seek specialist guidance* for complex treatment regimens.
- Prioritise patients with PD for medication administration rounds, thus reducing the risk of late dosing.⁹ Administer at the **exact time** specified on the medication chart – **on time, every time.**^{2,5,9} Consider appointing dedicated nurse to manage administration.⁹
 - Administer **levodopa medication** at least 30-40 minutes before or 60-90 minutes after meals (due to absorption disruption from consuming protein). Ensure adequate water intake. Observe for constipation and manage appropriately.⁸ **Involve the patient/carer** in the administration process where feasible.²
 - Replace controlled-release and modified-release preparations** with an equivalent dose of immediate release Sinemet® or dispersible Madopar®, where a patient with PD has **swallowing difficulties** or a feeding tube in situ.⁷

Supplying PD Medication

- Make PD medication **stock in clinical areas including the emergency department (ED)** to ensure 24 hour availability.^{2,9}
- Prioritise dispensing** of PD medication orders received to pharmacy.

Administering PD medication:

Self-medication for patients with PD is considered the gold standard of care.^{2,5,8} Consider implementation of a self-medication policy to allow eligible patients with PD to self-medicate.^{2,9}

Education

- Focus education** of healthcare professionals in areas that frequently encounter patients with PD e.g. ED/AMAU, surgical and orthopaedic units. Parkinson's Ireland is available to facilitate education and training.⁸
- *Specialist Guidance can be sought from a Consultant Neurologist, Hospital Pharmacist, PD Nurse Specialist, Speech and Language Therapist, Dietitian and by utilising [an approved PD dose conversion calculator](#).^{10,2,4,7}

References:

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¹ National Institute for Health and Care Excellence. NICE Guideline NG71 (2017) Parkinson's Disease in Adults. Available at <https://www.nice.org.uk/guidance/ng71/resources/parkinsons-disease-in-adults-pdf-1837629189061> [accessed 19/6/24]

² Richard G, Redmond A, Penugonda M, Bradley D. Parkinson's Disease Medication Prescribing and Administration During Unplanned Hospital Admissions. Mov Disord Clin Pract. 2022 Jan 25;9(3):334-339. doi: 10.1002/mdc3.13408. PMID: 35402654; PMCID: PMC8974884. [accessed 19/6/24]

³ Grissinger M. Delayed Administration and Contraindicated Drugs Place Hospitalized Parkinson's Disease Patients at Risk. P T. 2018 Jan;43(1):10-39. PMID: 29290668; PMCID: PMC5737245. [accessed 19/6/24]

⁴ Parkinson's Ireland Available at <https://www.parkinsons.ie/>

⁵ Ortiz, M.S. (2020). "On time - every time" A new strategy for dosing levodopa in hospital. J Pharm Pract Res, 50: 339-344. <https://doi.org/10.1002/jppr.1641> [accessed 19/6/24]

⁶ Parkinsons Excellence Network, Calculator available from <https://www.parkinsons.org.uk/professionals/resources/nil-mouth-medication-dose-calculators-and-guidelines>