



# PMD Alliance

Parkinson & Movement Disorder Alliance

## Improve Your Own Care in The Hospital & Facilities

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Patients with Parkinson disease (PD) who are hospitalized for surgical or medical conditions may be at increased risk for worsened PD symptoms. My fellow neurologists and I have encountered several cases in which hospitalized patients experienced worsened PD symptoms due to receiving inappropriate medications, or from medications given at incorrect times. This is a common problem, not just in the US, but in hospitals worldwide. In reviewing University of Calgary Hospital records, neurologist Katie Wiltshire found that only 50% of patients correctly received levodopa therapy according to the same schedule that they were following at home. In addition, 44% of patients were ordered dopamine blocking drugs, which can worsen PD symptoms. In the Netherlands, neurologist Oliver Gerlach and colleagues at Maastricht University Medical Center found that 26% of their patients with PD received incorrect medications, 21% experienced a deterioration of motor symptoms, and 33% had increased PD complications.

Parkinson disease and related conditions cause low levels of the brain chemical dopamine, which is essential for control of voluntary movements. Therefore, administration of drugs that block dopamine receptors in the brain can dramatically worsen PD symptoms, leading to complications and extended hospital stay and recovery time. Drugs used for the prevention and treatment of nausea that block dopamine receptors in the brain should be avoided in patients with PD. Safe medications include Zofran® (ondanseron) or Tigan® (trimethobenzamide), which are preferred over medications such as Reglan® (metoclopramide), Phenergan® (promethazine) or Compazine® (prochlorperazine). Patients with PD often experience hallucinations or episodes of delirium while in the hospital. It is common practice to administer dopamine receptor blocking antipsychotics for delirium, but in PD patients this must be avoided. The only exceptions are Seroquel® (quetiapine) and Clozaril® (clozapine) which come off dopamine receptors very quickly (and therefore do not worsen PD symptoms), and Nuplazid® (pimavanserin).

Nuplazid® was FDA approved in 2016 to treat hallucinations and delusions related to Parkinson disease, and works by dampening activity of serotonin type 2A receptors (which may be overactive in this condition). It is not usually available at hospital pharmacies and usually takes at least 2, often 4 or more weeks for its effect to build up. Therefore, it is important that family members bring this medication from home so that it is not discontinued in a hospital or long-term care setting. This is also true of several relatively new Parkinson's medications including Rytary (extended release carbidopa/levodopa capsules), Northera® (droxidopa) and Gocovri® (extended release amantadine capsules).

Unfortunately, many hospitals do not have adequate medical personnel or experienced neurologists who can review orders and ensure that every patient with PD receives only those medications that are safe and appropriate. Because of this, you and your family are in a key position to prevent medication-related errors. Different hospitals and clinics may not have access to all of your medical records, so it is important that you have these readily available. If you or a loved one suffers from a parkinsonian condition, you must be proactive in helping prevent drug errors and ensuring portability of medical records in the event of a hospitalization. Some helpful tips:

- Keep copies of all your medical records (including X-ray, MRI, and CT images) in a portable electronic format. This can be safely done using an encrypted (password protected) thumb drive or smart phone. If you are not sure how, start talking to computer-savvy family members or friends (don't wait for an emergency!) Online file sharing services like Dropbox or SugarSync may be blocked by hospital firewalls, and therefore are not ideal.
- On hospital admission, provide a medication schedule with the exact name, dose, and time of administration of all your medications, both prescription and over-the-counter. Request that appropriate medications be continued and given at the same times as you take them at home. If medication doses and times differ from your home regimen, request that a neurologist be consulted, or arrange a conversation between your neurologist's office and the hospital care team to review your medications.
- Provide a copy of this article with instructions to add the following medications to your allergy list:
- Anti-nausea medications: Reglan® (metoclopramide), Phenergan® (promethazine), Compazine® (prochlorperazine), Inapsine® (droperidol), Thorazine® (chlorpromazine).
- Anti-psychotic medications: Haldol® (haloperidol), Trilafon® (perphenazine), Triavil® (perphenazine with amitriptyline), Prolixin® (fluphenazine), Mellaril® (thioridazine), Navane® (thiothixene), Stelazine® (trifluoperazine), Loxitane® (loxapine), Orap® (pimozide), Risperdal® (risperidone), Invega® (paliperidone), Zyprexa® (olanzapine), Symbyax® (olanzapine with fluoxetine), Geodon® (ziprasidone), Abilify® (aripiprazole), Latuda® (lurasidone), Saphris® (asenapine), Fanapt® (iloperidone).
- Pain medications: Demerol® (meperidine) should not be given to patients taking Azilect® (rasagiline) or Eldepryl® (selegiline), due to risk of serotonin syndrome (a life threatening condition.)
- Unless you are allergic, indicate that the following medications used for the prevention and treatment of nausea and vomiting are acceptable: Zofran® (ondansetron), Anzemet® (dolasetron), and Tigan® (trimethoprim).
- Unless you are allergic, indicate that the medication Seroquel® (quetiapine) is acceptable for treatment of severe psychosis. Mild hallucinations should not be treated with medication.

By following these helpful tips and working with your healthcare providers, hospital errors can be prevented. Please do not hesitate to speak with your neurologist if you or your loved ones have additional questions or concerns.