MedicinesUpdateExtra

NHS Greater Glasgow and Clyde

# PARKINSON'S DISEASE IN ACUTE CARE

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***** NB. This bulletin supersedes Medicines Update Extra No. 1 *****

**CONTENTS**

**Summary box**

- It is CRUCIAL NOT TO STOP Parkinson's Disease (PD) medications for any significant length of time as there is a risk of neuroleptic malignant-like syndrome which may be fatal.
- Ensure early referral to the PD team to minimise risk of medication administration problems.
- When a patient does not have an individual supply of PD medication, supply should be sought immediately via the local main holding areas of PD medications across NHSGGC. Refer to NHSGGC guidance "PD medication stock list, acute hospitals" on StaffNet for details or contact pharmacy.
- For nil by mouth (NBM) patients, alternative routes need to be considered immediately. Seek advice from a PD specialist. Refer to NHSGGC "PD NBM guidance" on StaffNet, clinical pharmacist or Medicines Information for clinical advice if PD specialists are unavailable.
- In PD patients undergoing surgery, consider the full NBM period including pre-operative preparation, the total duration of surgery and post-operative recovery. Ensure advance planning where possible to avoid missed doses.
- Co-careldopa (Duodopa®) intestinal gel must be continued in patients established on treatment. Refer to NHSGGC guidance "Duodopa Monograph for maintaining co-careldopa (Duodopa®) intestinal infusion treatment in patients admitted to hospital" on StaffNet for details.
- Apomorphine must be continued in patients established on treatment. Refer to NHSGGC guidance "Apomorphine Subcutaneous Infusion Treatment in Patients Admitted to Hospital" on StaffNet for details.

## Section 1: General management of PD patients

### *When should a PD patient be referred to a PD specialist for assessment and review?*

All patients with a diagnosis of PD should be referred to the local PD nurse specialist on admission to hospital. For planned admissions this should be done in advance where possible. Early referral will allow any problems with medication administration to be identified early and help avoid missed doses whilst in hospital.
Within NHSGGC, PD patients may have a patient alert icon on TrakCare that allows notification to PD specialists on admission to hospital via the PD dashboard. Contacting PD specialists during normal working hours (Monday-Friday 9am-5pm) to notify them of PD patient admission is, however, still recommended. Out with normal working hours, ensure a referral is made for the next working day. Refer to the Adult Therapeutics Handbook Appendix 6 for contact details.

If advice is required, during working hours, contact the local PD nurse specialist or, if unavailable, a PD nurse specialist on another site. NHSGGC PD guidelines are available and can be used when a PD specialist is not available.

### *What NHSGGC PD guidelines are currently available for staff?*

The following NHSGGC guidelines are available on StaffNet in the Clinical Guideline Directory by searching for 'Parkinson's Disease' or by selecting the 'Central Nervous System' classification on the directory.[1-4]

- Parkinson's Disease Medication Stock List, Acute Hospitals
- Parkinson's Disease NBM Guidance, Acute
- Duodopa Monograph for maintaining co-careldopa (Duodopa®) intestinal infusion treatment in patients admitted to hospital
- Apomorphine Subcutaneous Infusion Treatment in Patients Admitted to Hospital

There is also generic guidance on PD management in Acute included in the Adult Therapeutics Handbook.

These guidelines should be used when a PD specialist is not available. The on-call pharmacist can be contacted, out of hours, if further advice is required.

### *How should PD medications be prescribed and administered?*

PD medications should be prescribed and administered at exact times. The times should be clearly annotated on the prescription chart. Ward staff should ensure a system is in place so that patients receive their medications at the correct times.[5]
Failing to administer PD medications at their scheduled times may lead to PD patients being unable to swallow (increasing the risk of aspiration), speak or move.[5]

### *Which medications should not be prescribed in PD patients?*

Centrally acting dopamine antagonists such as haloperidol, metoclopramide, prochlorperazine and chlorpromazine should be avoided in PD patients.[5-10]

It is important to always check for contraindications, cautions, side-effects of medications and drug interactions when prescribing new medications.

### *When might PD medication need adjusting?*

A patient's usual PD medication may need adjustment when:

- The patient has swallowing difficulties or is NBM. This requires alteration or the use of a suitable alternative route for PD medication.
- Side-effects such as hallucinations are exacerbated by the patient's clinical condition (e.g. intercurrent infection). This often requires a dose reduction (but *not* omission of PD treatment). Seek advice from PD specialist or senior medical team.

## Section 2: Management of PD patients who have swallowing difficulties or are NBM

In cases where a patient has swallowing difficulties or are NBM, alternative routes need to be considered. The following section aims to provide some practical guidance to commonly asked questions for patients unable to take their usual medications orally.

### *What questions should I consider when assessing patients' swallowing status?*

As an initial guide:

- Can the patient swallow their usual tablets?
- Can the patient swallow other formulations e.g. liquids or dispersible tablets?
- Does the patient have a nasogastric (NG) tube or would it be appropriate to insert one for the purpose of administering medications?
- Is there any reason why the patient must not be given any oral medications (e.g. in some cases peri-operatively)?

### *What issues should be considered when administering medications via an NG tube?*

Always seek advice from a PD specialist on when NG administration is appropriate and from a pharmacist or NHSGGC PD NBM guidance on StaffNet around suitable medications for NG administration. Not all medications are suitable for NG administration.[11-12]

Dispersible forms of medications or liquids may be used. Some (but not all) tablets may be used 'off label' by crushing and dispersing in water. This is NOT suitable for modified release formulations.[11-12]

### *How do I switch from standard/modified release preparations to dispersible levodopa?*

Dispersible formulations of levodopa may have a faster onset and shorter duration of action than standard release tablets or capsules.[11] The priority is to ensure that the patient continues to receive the medication even if the dose regimen is slightly different. Dispersible formulations of levodopa offer a suitable alternative as follows:

- Co-beneldopa (benserazide/levodopa) capsules – use dispersible co-beneldopa tablets at equivalent dose.[11]
- Co-careldopa (carbidopa/levodopa) – ordinary tablets can be dispersed in water or switch to co-beneldopa dispersible tablets, ensuring the equivalent levodopa dose.[11,12]
- Modified release formulations – do NOT crush. Consider changing to standard release formulations. A reduction in the daily levodopa dosage of about 30% may be necessary when switching from modified release to dispersible co-beneldopa.[10,13] Smaller but more frequent doses may be required. As with all changes to PD medication, close monitoring of the patient is needed. Seek advice from PD specialist

### *What needs to be considered in PD patients undergoing surgery?*

Advance planning and early referral of PD patients to PD specialists is recommended for all PD patients undergoing surgery as missing PD medications may lead to neuroleptic malignant like-syndrome. Referral at pre-assessment is recommended. Consideration should therefore be given to the total duration of the NBM period and common post-operative complications (e.g. nausea, vomiting and absorption problems).[5,14] Seek advice from anaesthetist or PD specialist in advance if there are uncertainties regarding pre-operative PD medications.

The Parkinson's UK medicines optimisation consensus statement provides the following guidance:[5]

1. Place PD patients first on the operating list where possible.
2. Determine the effect the total duration of surgery and NBM period could have on the patient's PD medication regimen. Seek PD specialist advice especially if the total duration is likely to exceed 6 hours as consideration to the use of rotigotine patch

or modifying the PD dosing regimen may be required.

3. Ensure the morning dose(s) of all PD medications are prescribed. Mark clearly on the prescription chart that they must be given before surgery.
4. Arrange a PD specialist post-surgery review.

## Which PD medications can be given to patients with no oral or NG access?

In PD patients with no oral or NG access the following can be considered where appropriate:[14]

- Rotigotine transdermal patch- This should be prescribed under the advice of a PD specialist or in accordance to NHSGGC PD NBM guidance on StaffNet.

- Apomorphine subcutaneous infusion-This should only be prescribed under the advice of a PD specialist. However, if the patient is already established on apomorphine then it must be continued.

The following provides further details on the use of these medications in PD patients with no oral or NG access.

## When would it be appropriate to start a rotigotine patch?

Rotigotine is a dopamine agonist, available in a transdermal patch formulation.[15] It offers an alternative way to administer PD medication if the oral/NG route is unavailable, and where the patient has no specific contraindications to rotigotine. Some points to consider include:

- Neuropsychiatric side-effects – dopamine agonists tend to cause more neuropsychiatric side-effects than levodopa. This also needs to be viewed in context of overall clinical status of the patient e.g. intercurrent infection may also cause hallucinations so this effect may be exacerbated. Previous history on dopamine agonists should also be considered.

- Skin rash – this is experienced by some patients with the patch and would normally be a contraindication to further treatment.[15]

- Impulse control disorders or other serious side-effects. This should be considered in patients who have previously required withdrawal of a dopamine agonist.[15]

All of the above have to be balanced with risk of serious side-effects and deterioration of PD symptom control.

## Who should the rotigotine patch be started by?

The specialist PD team are best placed to assess patient history and clinical status to decide if a rotigotine patch is appropriate and advise on appropriate initial doses. If PD specialist advice is not available, rotigotine patch can be started by the acute care team in cases where the oral/ NG route is unsuitable, as explained below.

## What dose conversions should be used to convert patients to rotigotine patch?

Rotigotine patch should normally be initiated by a PD specialist and therefore, the specialist would advise on a suitable dose. NHSGGC PD NBM guidance gives basic starter advice on how to convert patients to a rotigotine patch. This is to be used only where PD specialist advice is not available.

For patients who usually take an oral dopamine agonist, an equivalent dose can be relatively straight forward to work out (See NHSGGC PD NBM guidance, conversion table 2). For patients on levodopa therapy only, an initial fixed dose (4 mg/24hr) of rotigotine patch is recommended regardless of the previous levodopa dose. For patients on a combination of dopamine agonist and levodopa, the initial rotigotine patch dose is determined by their current dopamine agonist dose only (See NHSGGC PD NBM guidance, conversion table 2). The patient should then be monitored for response and side effects.

## When do I switch PD patients from rotigotine patch back to their usual oral PD medications?

Once the patient can safely swallow their oral medications, consideration should be given to switching the patient back from rotigotine patch to their usual oral PD medication regimen. This needs to be done carefully as abrupt withdrawal of rotigotine patch may result in neuroleptic malignant-like syndrome.[15] Guidance should therefore be sought from a PD specialist where the patient's clinical status, current rotigotine patch dose and their usual oral PD medication regimen will be considered.

In general terms, it is not recommended that the switch from rotigotine patch back to oral PD medication is carried out during out of hours. It is recommended that the switch is carried out during main working hours with the support of a PD specialist. To facilitate the discharge process and to avoid discharge delays out of hours, seek advice from a PD specialist in advance of discharge where appropriate.

### *Can apomorphine be used in patients who have no oral or NG access as an alternative route?*

Yes, but only under the advice of the PD specialist team. This would be unusual (e.g. if skin allergy contraindicates rotigotine) unless the patient was already on apomorphine.

If a patient is already established on apomorphine then this must be continued. Refer to NHSGGC guidance "Apomorphine Subcutaneous Infusion Treatment in Patients Admitted to Hospital" on StaffNet for details.

## Section 3: Co-careldopa intestinal gel (Duodopa®)

### *When would co-careldopa intestinal gel (Duodopa®) be prescribed?*

Duodopa® should only be initiated under the guidance of a PD specialist. It is not suitable in an emergency situation as it requires the insertion of a percutaneous endoscopic gastrostomy with jejunal (PEG-J) tube.[2]

If a patient is already established on this then it must be continued. Refer to the PD nurse specialist as soon as possible. Use patient's own supply. Refer to NHSGGC guidance "Duodopa Monograph for maintaining co-careldopa (Duodopa®) intestinal infusion treatment in patients admitted to hospital" on StaffNet for further details.

### *Can patients on co-careldopa intestinal gel (Duodopa®) take oral medications?*

The PEG-J tube is for administration of Duodopa® only. Most patients using Duodopa® have good swallow function and can take oral medications.[3]

### *What should I do if the patient's co-careldopa intestinal gel (Duodopa®) infusion pump is not functioning or the tube has been displaced?*

Contact the PD specialist immediately. Refer to NHSGGC guidance "Duodopa Monograph for maintaining co-careldopa (Duodopa®) intestinal infusion treatment in patients admitted to hospital" on StaffNet for details.

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