NHS Grampian Guideline For Prescribing Parkinson’s Disease (PD) Medication In Hospital

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Executive Sign-Off
This document has been endorsed by the Director of Pharmacy and Medicines Management

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Process Document: Policy, Protocol, Procedure or Guideline

Document application: NHS Grampian

Purpose/description: This guideline provides guidance for prescribing Parkinson’s Disease (PD) medication in NHS Grampian hospitals.

Responsibilities for implementation:

Organisational: Chief Executive and Management Teams
Corporate: Senior Managers
Departmental: Heads of Service/Clinical Leads
Area: Line Managers
Hospital/Interface services: Assistant General Managers and Group Clinical Directors
Operational Management Unit: Unit Operational Managers

Policy statement: It is the responsibility of all staff to ensure that they are working to the most up to date and relevant policies, protocols procedures.

Review: This policy will be reviewed in three years or sooner if current treatment recommendations change
Responsibilities for review of this document: Dr Zoe Muir Consultant in Elderly Medicine

Responsibilities for ensuring registration of this document on the NHS Grampian Information/ Document Silo: Pharmacy and Medicines Directorate

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Job/group title of those who have control over this document: Consultant in Elderly Medicine

Responsibilities for disseminating document as per distribution list: Dr Zoe Muir Consultant in Elderly Medicine

Revision History:

<table>
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<tr>
<th>Revision Date</th>
<th>Previous Revision Date</th>
<th>Summary of Changes (Descriptive summary of the changes made)</th>
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<tbody>
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<td>N/A – New Document</td>
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* Changes marked should detail the section(s) of the document that have been amended, i.e. page number and section heading.
Parkinson’s Disease (PD): Prescribing PD Medication In Aberdeen Royal Infirmary Or Woodend Hospital

Failure to give correct PD medication on time can result in serious deterioration/withdrawal reactions. PD medications are time critical. Do Not abruptly stop drugs.

The general advice in this document applies to all PD patients admitted to any hospital in NHS Grampian but the contacts given are specific to ARI/Woodend. For patients admitted to Dr Gray’s, please contact local PD service or pharmacist for advice/drug supplies and for those admitted to community hospitals, please contact your nearest PD service and pharmacy team.

- Person with Parkinson’s admitted to hospital or A&E
  - Check if they take Parkinson's medication
    - Yes
    - Accurate PD medicines reconciliation & prescription:
      - Check with patient/family, GP record, last clinic letter
      - Prescribe correct PD medication (drugs and times)#
    - No
    - Avoid drugs that worsen Parkinson's
      - Consider:
        - domperidone or ondansetron for nausea (NOT metoclopramide / prochlorperazine)
        - lorazepam or quetiapine for agitation (NOT haloperidol / olanzapine / risperidone)

- Can person take medication orally?
  - Yes
  - Are PD medications available on ward or via patient’s own supply?
    - Yes
    - Give PD medications on time, every time
      - Emphasise PD meds are time critical in nursing handover
      - “PD meds on time” sticker for PAR/Kardex
      - “Get it on time” clock above bed
    - No
    - Contact ARI ward 205 or 102 for supplies. If unable to get supplies out-of-hours contact on-call pharmacist via switchboard.
  - No
    - If unsafe swallow or patient is nil by mouth*: place NG tube for medication or convert oral PD medication to rotigotine patch (see nil by mouth guidance page 2).
    - Contact PD nurse (Ext 56627, page 2171) or on call neurology (page 3141) or DOME registrar (59057) asap for ongoing advice.

*NB: Many patients can take normal PD medications with small sips of water. If no bowel absorption (e.g. bowel obstruction, ileus) use “NG not suitable” arm of accompanying nil by mouth guidance.

# Rarely patients may be on non-oral PD medicines:
  - Subcutaneous Apomorphine (for infusion): must be continued. Seek advice from PD nurse (Ext 56627, page 2171) or APO-go 24 hr helpline (0844 880 1327)
  - Co-careldopa intestinal gel (Duodopa) via jejunal (PEG-J) tube must be continued. Seek advice from PD nurse (Ext 56627, page 2171) or Duodopa 24 hr helpline number (0800 458 4410)
Parkinson’s Disease (PD) Nil By Mouth Guidance: Conversion Of Oral PD Medicines To An Alternative Formulation In Hospital

**Patients may exhibit sensitivity to Rotigotine patches at higher doses and their use in patients not already on dopamine agonists can precipitate confusion, hallucinations or frank delirium. In dopamine agonist naïve patients, we recommend that Rotigotine patches are started at low doses (4mg) and titrated up over a period of days based on a patient’s response. Please contact PD specialists at the soonest available opportunity for advice.**

* Monitor for side-effects (especially confusion/hallucinations) or lack of benefit and adjust accordingly

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**Definitely unsafe swallow or nil by mouth**

**Contact PD specialist Team ASAP and Speech & Language Therapist (if patient has swallowing difficulties)**

If PD Team unavailable (e.g. out of hours) assess suitability for NG tube (preferable option)

**NG tube suitable**

- Refer to conversion table 1
- Refer to PD specialists and ward pharmacist

**NG tube not suitable**

- Patient on a combination of Dopamine agonist and Levodopa therapy
  - Use Rotigotine patch
  - Initial Rotigotine patch dose determined by current dose of dopamine agonist only
  - Refer to conversion table 2*
  - Monitor response to initial rotigotine patch dose and adjust if required. (Maximum rotigotine dose 16mg/24hr)
  - Refer to PD specialists and ward

- Patient on Levodopa therapy only
  - Use Rotigotine 4mg/24hr Patch**
  - Refer to PD specialists and ward pharmacist

- Patient on Dopamine agonist only
  - Use Rotigotine Patch
  - Refer to conversion table 2* for dose advice
  - Refer to PD specialists and ward pharmacist

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* Monitor for side-effects (especially confusion/hallucinations) or lack of benefit and adjust accordingly

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**NG tube suitable**

- Refer to conversion table 1
- Refer to PD specialists and ward pharmacist

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**NG tube not suitable**

- Patient on a combination of Dopamine agonist and Levodopa therapy
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  - Monitor response to initial rotigotine patch dose and adjust if required. (Maximum rotigotine dose 16mg/24hr)
  - Refer to PD specialists and ward

- Patient on Levodopa therapy only
  - Use Rotigotine 4mg/24hr Patch**
  - Refer to PD specialists and ward pharmacist

- Patient on Dopamine agonist only
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  - Refer to conversion table 2* for dose advice
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**Patients may exhibit sensitivity to Rotigotine patches at higher doses and their use in patients not already on dopamine agonists can precipitate confusion, hallucinations or frank delirium. In dopamine agonist naïve patients, we recommend that Rotigotine patches are started at low doses (4mg) and titrated up over a period of days based on a patient’s response. Please contact PD specialists at the soonest available opportunity for advice.**
Guidance Regarding Administration Of Parkinson’s Disease (PD) Medicines To Patients With Nasogastric/Enteral Feeding Tubes

The alteration of medications for use via enteral feeding tubes or in patients with swallowing difficulties results in the medication being unlicensed. Use 30mL of water to flush the tube before and after drug administration. If more than one medication is to be given, flush with 15-30mL of water between each medication and after dose as per NHS Grampian Policy. With all changes to PD medication, close monitoring of the patient’s response is needed.

**Conversion Table 1: Administration To Patients With Enteral Feeding Tubes Or Swallowing Difficulties**

<table>
<thead>
<tr>
<th>Drug name</th>
<th>Method of administration for enteral tubes or swallowing difficulties</th>
</tr>
</thead>
</table>
| Amantadine                    | • Liquid available 50mg/5mL (contains sorbitol).  
• The capsules can be opened and mixed with water for administration.                                               |
| Co-beneldopa (Madopar)        | • Standard madopar/co-beneldopa can be switched to same dose of dispersible madopar/co-beneldopa for ease of swallowing or NG administration.  
• Modified (slow) release formulations **cannot** be crushed or dissolved. Convert to dispersible formulation. Slow release levodopa has lower bio-availability than dispersible so ideally equivalent dispersible dose would be only 70% of slow release dose but this is only important if patient on larger doses of controlled release (more than 1 x 100/25 slow release three times a day) when smaller more frequent doses of dispersible co-beneldopa may be required.  
• A small “when required” dose may need to be prescribed if changing from capsules/tablets to dispersible tablets. This should only be done by a PD specialist as there may be a detrimental effect of increasing total daily dose. |
| Co-careldopa (Sinemet)        | • Modified release formulations **cannot** be crushed. Convert to standard co-careldopa and disperse in water or switch to dispersible co-beneldopa. See advice for co-beneldopa about dose conversion from modified to standard release.  
• Standard formulations disperse in water for administration or switch to dispersible co-beneldopa ensuring the equivalent levodopa dose (e.g. Sinemet® 110mg (carbidopa 10mg/levodopa 100mg) tablet levodopa dose is equivalent to Madopar® 125mg (benserazide 25mg/levodopa 100mg) dispersible tablet. |
| Entacapone (Comtess)          | • Can omit in the acute situation until review by PD specialist.                                                                    |
| Co-careldopa +Entacapone (=Stalevo) | • Entacapone component: Can omit in the acute situation until review by PD specialist  
• Co-careldopa component: Give as per co-careldopa (Sinemet) entry above.                                                       |
| Pramipexole                   | • Standard preparation can be crushed                                                                                             |
| Pramipexole (Modified release) | • Cannot be crushed – convert to standard preparation dose, see **table 2**.                                                       |
| Ropinirole                    | • Standard preparation can be crushed                                                                                             |
| Ropinirole (Modified release, XL) | • Cannot be crushed – convert to standard preparation dose, see **table 2**.                                                       |
| Selegiline                    | • Selegiline tablets can be dispersed in water.                                                                                   |
|                               | • Selegiline is also available as selegiline oral lyophilisate (Zelapar®).                                                        |
|                               | • Zelapar® is non-formulary - follow the appropriate non-formulary processes.                                                      |
|                               | • Use Zelapar® if the patient has a moist mouth and is able to use Zelapar® safely.                                                |
|                               | • Zelapar® (dissolves on tongue) 1.25mg is equivalent to 10mg selegiline.                                                         |
|                               | • Can omit in the acute situation.                                                                                               |
Conversion Of Oral Dopamine Agonists To Rotigotine Patch If No Nasogastric Tube Or No Bowel Absorption

Can also be used to convert modified/slow release pramipexole/ropinrole to standard preparation of pramipexole/ropinrole.

The maximum dose of rotigotine is 16mg/24hours. The Patches are available in 2mg/4mg/6mg/8mg strengths. Do NOT cut patches to achieve correct dose.

Conversion Table 2: Conversion Of Oral Dopamine Agonists To Rotigotine Patch

<table>
<thead>
<tr>
<th>Standard release Pramipexole* BASE content</th>
<th>Modified Release Pramipexole* BASE content</th>
<th>Standard release Ropinrole</th>
<th>Modified Release Ropinrole</th>
<th>Rotigotine Patch</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.088mg 3 x day</td>
<td>0.26mg 1 x day</td>
<td>0.75mg 3 x day</td>
<td>2mg 1 x day</td>
<td>2mg/24hrs</td>
</tr>
<tr>
<td>0.18mg 3 x day</td>
<td>0.52mg 1 x day</td>
<td>1mg 3 x day</td>
<td>4mg 1 x day</td>
<td>4mg/24hrs</td>
</tr>
<tr>
<td>0.35mg 3 x day</td>
<td>1.05mg 1 x day</td>
<td>2mg 3 x day</td>
<td>6mg 1 x day</td>
<td>6mg/24hrs</td>
</tr>
<tr>
<td>0.53mg 3 x day</td>
<td>1.57mg 1 x day</td>
<td>3mg 3 x day</td>
<td>8mg 1 x day</td>
<td>8mg/24hrs</td>
</tr>
<tr>
<td>0.70mg 3 x day</td>
<td>2.1mg 1 x day</td>
<td>4mg 3 x day</td>
<td>12mg 1 x day</td>
<td>12mg/24hrs</td>
</tr>
<tr>
<td>0.88mg 3 x day</td>
<td>2.62mg 1 x day</td>
<td>6mg 3 x day</td>
<td>16mg 1 x day</td>
<td>14mg/24hrs</td>
</tr>
<tr>
<td>1.05mg 3 x day</td>
<td>3.15mg 1 x day</td>
<td>8mg 3 x day</td>
<td>24mg 1 x day</td>
<td>16mg/24hrs</td>
</tr>
</tbody>
</table>

*Pramipexole can be prescribed as Salt or Base values – double check strength and ensure comparing Base content.

Drugs that can be omitted temporarily if NG tube NOT suitable in the acute situation:
- Monoamine-oxidase-B inhibitors (MAOB) - Rasagiline, selegiline.
- Catechol-O-methyltransferase inhibitors (COMT) – Entacapone, Tolcapone.
- Amantadine.
Document in notes any medicines that are being temporarily omitted and make it clear these have to be restarted if / when swallowing re-established.

NB: Other non-oral PD medication (subcutaneous apomorphine or intrajejunal Duodopa) are not suitable for emergency initiation if people are not already on them.

References: