Worcestershire Acute Hospitals NHS Trust

Guideline on the Medicines Management of Parkinson's Disease Patients with Compromised Oral Administration

This guidance does not override the individual responsibility of health professionals to make appropriate decision according to the circumstances of the individual patient in consultation with the patient and /or carer. Health care professionals must be prepared to justify any deviation from this guidance.

Introduction

This guideline covers the management of patients with Parkinson's disease admitted to hospital that are unable to take their oral medications.

This guideline is for use by the following staff groups:

All qualified healthcare professionals involved in the care of patients with Parkinson's disease.

Lead Clinician(s)

Sundus Irshad — Advanced Clinical Practitioner and Specialist Clinical Pharmacist in Acute Medicine

Approved by Medicines Safety Committee on: 13th September 2023
Review Date : 13th September 2026

This is the most current document and is to be used until a revised version is available

Key amendments to this guideline

Date	Amendment	Approved by:
13th September 23	New document approved	Medicines Safety Committee

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Guideline on the Medicines Management of Parkinson's Disease Patients with Compromised Oral Administration

1. INTRODUCTION

Parkinson's disease (PD) is a neurodegenerative condition affecting around 145,000 patients in the UK, and is the fastest growing neurological condition across the world. Initial symptoms typically present with tremor, stiffness, slowness, balance problems, and gait disorders. Although there is no cure for Parkinson's disease at present, medications are used to help control symptoms and slow progression. Classes of medications used are outlined in Table 1.

1.1 BACKGROUND: COMPROMISED ORAL MEDICATION ADMINISTRATION IN PARKINSON'S DISEASE

Antiparkinsonian medications should not be withdrawn abruptly or allowed to stop suddenly due to dysphagia or other causes such as being made nil-by-mouth (NBM) peri-operatively. Antiparkinsonian medications are time critical and a delay of just 30 minutes can increase the likelihood of adverse effects and therefore increase hospital stay. Should serious delays occur, the patient can develop decreased mobility, increased risk of aspiration, acute akinesia or neuroleptic malignant syndrome, which can lead to coma or death (SPS, 2021; NICE, 2018). NICE 2018 quality standard states *'Adults with Parkinson's disease who are in hospital or a care home should take levodopa within 30 minutes of their individually prescribed administration time'.*

Dysphagia can be a common complication in Parkinson's Disease patients, but the extent of impairment depends on the individual's disease progression. Patients may also experience worsened swallowing during acute illness or present with other causes for a compromised oral route such as vomiting, or a requirement to be NBM peri-operatively. As this can affect administration of oral medications, the suitability of the formulations will need to be assessed depending on whether the patient is made nil by mouth, nasogastric fed or on a dysphagic diet.

This guideline is a decision aid for managing Parkinson's disease patients that present with or develop a compromised oral route of administration. A multi-disciplinary approach will be required for effective management to improve patient outcomes and reduce the length of hospital stay.

***Table 1** – Classes of medications*

Class of Medication	Examples
Levodopa (with carbidopa or benserazide)	Co-beneldopa (Madopar) Co-careldopa (Sinemet)
Levodopa (with carbidopa) + COMT inhibitors	Co-careldopa+Entacapone (Stalevo)
Dopamine Agonists	Pramipexole Ropinirole Rotigotine Apomorphine
MAO-B Inhibitors	Rasagiline Selegiline Safinamide
COMT inhibitors	Entacapone Opicapone
Glutamate antagonist	Amantadine

2. ROLES & RESPONSIBILITIES

The admitting speciality team has the overall responsibility of the patient however advice must be sought from the multi-disciplinary team where deemed appropriate such as Speech and Language Therapy Team (SLT), Pharmacists, Consultant Neurologists, Geriatricians (where Rockwood score is >5).

3. GUIDELINE

3.1. ORAL MEDICATION

Antiparkinsonian medications should not be stopped abruptly.

- It is recommended that the medication history is confirmed using two sources including the name, dose, frequency, and specific timing of the antiparkinsonian medication regime.
- This specific timing can vary between patients therefore, where able, it is recommended to confirm timings with the patient or their carers/relatives.

Drug history sources for antiparkinsonian medications can include:

- Patient/Carers/Relatives
- Summary Care Record (SCR)
- Bluespier clinic letters (if recent)
- Previous discharge summaries (if recent)
- Patient's own medication boxes or dosette boxes

3.1.1 LOCATING MEDICATIONS

If the medications are not available on the ward during normal working hours, the pharmacist or pharmacy technician for the ward must be contacted immediately. Out of hours, the drug locator should be used where possible, or the on-call pharmacist should be contacted through switchboard.

3.1.2 COMPROMISED ORAL ROUTE

If the patient does not tolerate their baseline swallow recommendations and cannot take their oral Parkinson's medication, an immediate assessment is required.

- For patients that are NBM for indications such as prolonged surgery, have GI failure or their swallow cannot be assessed e.g., due to delirium or sedation, a prescriber will need to convert their medications to a patch as discussed below. Where possible, oral levodopa should be continued in the peri-operative period, see Nil by mouth and peri-operative medicines use guideline WAHT-KD-017 on the intranet.
- For patients who are not NBM intentionally, if deemed clinically appropriate with advice from the medical team, nursing staff can trial crushed tablets or opened capsule contents with 10mL yoghurt/custard (SPS, 2022). Alternatively, mix dispersible medication in 10mL of water, with or without thickener. Note that there is limited evidence in the literature about using thickener with crushed and dispersed medication and that taking PD medications with food may alter absorption (SPS 2021a, 2021b, 2022); monitor PD control if this option is used.
- If the above is not tolerated or inappropriate to trial, or if there are significant delays to enteral administration of regular medications (more than 30 minutes), start the patient on a rotigotine patch. Consider inserting an NG tube (follow NG Insertion Guidelines WAHT-NUR-065) and continue the rotigotine patch until NG placement is confirmed with a chest x-ray and enteral access for medicines administration is obtained. All decisions and outcomes should be documented in the medical notes.

The OPTIMAL CALCULATOR is the preferred calculator to convert medications to a suitable formulation, such as dispersible medicines or a rotigotine patch. Seek advice from the ward pharmacist or on-call pharmacist to support if needed. See sections below and use **Appendix 1: Flow Chart** for step-by-step recommendations. See Section 3.2 regarding rotigotine prescribing.

A referral to SLT should be made via ICE for SLT input where there is a change from the patient's baseline swallow recommendations. A referral should be made to a specialist team such as Neurologists, Parkinson's nurse specialists or Geriatricians (frail patients) if there is any concern regarding the patient's PD control. See Section 3.5 for contact information.

NB - If there are significant delays to antiparkinsonian medications administration, particularly where doses are omitted or the patient's PD control has been affected, this must be reported through the DATIX system.

3.1.2.1. NO ORAL ROUTE / NO NG ROUTE / AWAITING SLT ASSESSMENT / AWAITING NG TUBE INSERTION

Parkinson's medication should be converted to a rotigotine patch using the OPTIMAL CALCULATOR if the patient is:

- Unable to take their medicines orally and does not tolerate dispersible forms
- NBM for other indications e.g. surgery
- Awaiting NG tube insertion and confirmation of placement
- Awaiting SLT input and unable to administer medications via other enteral routes

Swallow assessments should be continued regularly with the view to switch back to the patient's usual medicines regime or an enteral route when possible. Note that specialists may recommend an altered oral/enteral medication regime where the patient's PD has deteriorated. Ensure rotigotine patches are removed once oral/enteral route is restarted.

3.1.2.2. NG ROUTE ADMINISTRATION

If an NG tube is inserted, doctors or nurses will need to confirm the NG tube is in the stomach before the administration of medications and document this in the medical notes. The rotigotine patch should be continued until there is confirmation of placement and removed when enteral antiparkinsonian medications are commenced. Use the OPTIMAL CALCULATOR to convert medications to dispersible forms which can be administered via an NG tube.

If there is no improvement or no possibility for improvement, discuss with the neurology team for consideration of PEG tube insertion. Consider early referral to the PEG multi-disciplinary team that can advise on a variety of complex nutritional questions as well as PEG insertion (peg.mdt@nhs.net).

3.1.2.3. MODIFIED DIET AND FLUID TEXTURE (DYSPHAGIC DIET)

If the patient is safe for oral intake of medications following a review by SLT, antiparkinsonian medications can be converted to soluble forms or crushed and dispersed to aid administration. Where the patient is advised to have a recommended thickened consistency of fluids, dispersible medication should also be thickened. Use the OPTIMAL CALCULATOR for recommendations on converting to suitable dispersible/crushable formulations.

3.2. ROTIGOTINE

Rotigotine patches are advised only where patients are unable to have oral dispersible formulations and do not have an NG tube in place, which includes the interim period where this may be arranged. It would be advantageous to seek specialist advice when converting oral levodopa to rotigotine. See section 3.5. for contact information.

Patches of different strengths can be applied to make up the total dose required. If a patient is prescribed rotigotine patches, some potential adverse effects to note include (see BNF for full list):

- Nausea
- Constipation
- Hypotension
- Headaches
- Anxiety
- Drowsiness
- Impulsive and convulsive behaviours
- Hallucinations, irritability, and delusions
- Skin reaction

In dementia or delirium, the OPTIMAL CALCULATOR will recommend lower starting doses of rotigotine due to the risk of agitation and hallucinations.

There are information packs available from community Parkinson's team and information for patients/carers about patch rotation, skin care etc. See section 3.5 for useful contact numbers and information.

3.3. APOMORPHINE

Apomorphine is a dopamine agonist which is used in advanced Parkinson's Disease. It can be used alone or in combination with other antiparkinsonian medications. There are different modes of administration including pen injections or infusion pumps. This medication should never be started as an alternative to oral medications when oral route of administration is compromised. It is only started and reviewed by specialists.

The patient's apomorphine regime should be confirmed on admission and continued as an inpatient; a compromised oral route should not affect this medication. Call Apo-Go helpline for advice out-of-hours (0844 880 1327) or speak to a pharmacist if needed. This is a critical medication and should not be omitted or delayed. See Section 3.5 for useful contacts and information.

3.4. GENERAL PRESCRIBING IN PARKINSON'S DISEASE

A common cause for a compromised oral route in Parkinson's disease is nausea and vomiting and prescribing an anti-emetic can be indicated. Care is needed to select an appropriate anti-emetic due to the risk of side effects.

Antiemetic choice in Parkinson's Disease:

- Domperidone (PO/PR)
  OR ondansetron can be used safely for nausea and vomiting.
  (NB – These medications are associated with QT prolongation, see BNF cautions and contraindications)

Medications that can worsen Parkinson's disease include (not limited to):

- Metoclopramide
- Cyclizine
- Prochlorperazine (Stemetil)
- Haloperidol
- Avoid anticholinergics where possible

3.5. USEFUL INFORMATION AND CONTACTS

Neurology Consultants	Referrals can be made via email: wah-tr.wrh.neurologyreferrals@nhs.net wah-tr.neurologysecs@nhs.net wah-tr.neurologyadvice@nhs.net Please contact secretary on 38933, 38946, 38937 for any other enquires.
Specialist Parkinson's Disease Nurse (Worcestershire Acute Hospitals)	Julie Pittaway Contact: wah-tr.wrh.neurologyreferrals@nhs.net
Geriatrics Consultants	Via email: wah-tr.wrhgeriatricreferrals@nhs.net
Community Parkinson's Nurse Specialists	whcnhs.parkinsonsnurses@nhs.net
Parkinson's UK - Advisors For general enquiries from patients regarding the day-to-day impact of Parkinson's; benefits; grants; employment issues; emotional support; general support.	Tel: 0808 800 0303 Opening Times: Monday to Friday: 9am to 6pm; Saturday: 10am to 2pm. Helpline is closed on Sundays and bank holiday.
Speech and Language Therapy (SLT) Team	Opening Hours Monday to Friday, 08:30-17:30. Contact: via ICE referral
PEG MDT	peg.mdt@nhs.net
Apo-Go helpline (for apomorphine)	Tel: 0844 880 1327

Useful information:

OPTIMAL CALCULATOR General information about medications and formulation conversion calculators.	www.parkinsonscalculator.com
Parkinson's UK Information and support for patients and professionals	www.parkinsons.org.uk
Apo-Go Resources Information on device set-up.	www.apo-go.com/hcp/resources

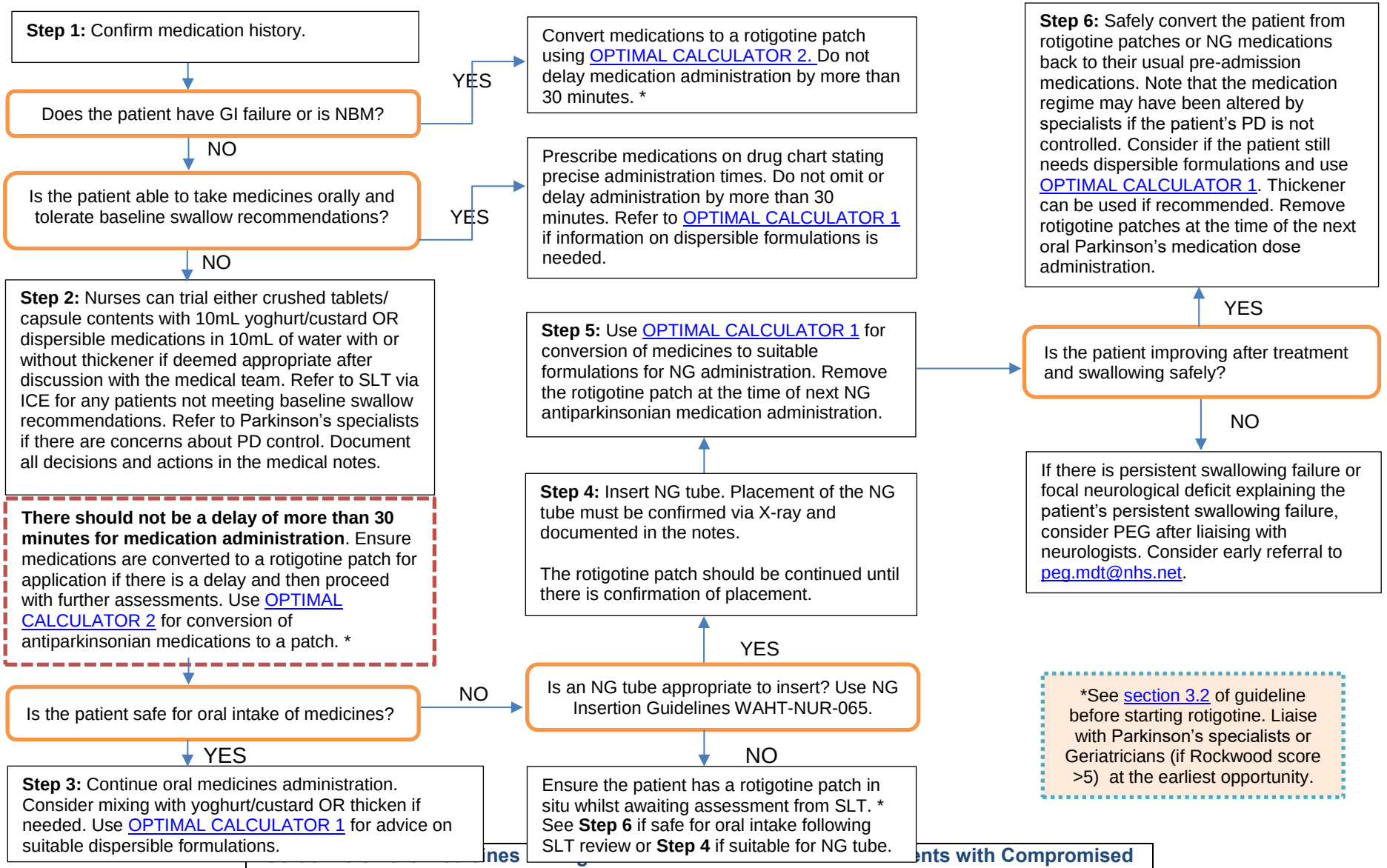
4. EDUCATION AND TRAINING

There is no mandatory training regarding this guideline. Information will be disseminated to relevant departments through electronic communication channels on approval. This guideline may be incorporated into induction training for new staff where required.

5. MONITORING COMPLIANCE

Monitoring of Datix incident reports will highlight any gaps in compliance to this guideline. Local clinical audits may be undertaken in the different multi-disciplinary departments.

APPENDIX 1: FLOW CHART FOR ANTIPARKINSONIAN MEDICATION PRESCRIBING



Monitoring Tool

This should include realistic goals, timeframes and measurable outcomes.

How will monitoring be carried out?

Who will monitor compliance with the guideline?

Page/ Section of Key Document	Key control:	Checks to be carried out to confirm compliance with the policy:	How often the check will be carried out:	Responsible for carrying out the check:	Results of check reported to: *(Responsible for also ensuring actions are developed to address any areas of non-compliance)*	Frequency of reporting:
	WHAT?	**HOW?**	**WHEN?**	**WHO?**	**WHERE?**	**WHEN?**
Section 1.1	Antiparkinsonian medication should be given within 30 minutes of administration time.	By review of drug chart by ward based clinical pharmacists.	On completion of clinical pharmacy review of drug chart.	Ward based clinical pharmacists.	Deviations from guideline recommendations may be reported via DATIX.	Each time a reportable issue arises.
Section 1.1	Antiparkinsonian medication should not be omitted.	By review of drug chart by ward based clinical pharmacists.	On completion of clinical pharmacy review of drug chart.	Ward based clinical pharmacists.	Deviations from guideline recommendations may be reported via DATIX.	Each time a reportable issue arises.

REFERENCES

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Specialist Pharmacy Service (SPS) (2021b) [online] Using thickeners of different types for patients with swallowing difficulties. Available at: https://www.sps.nhs.uk/articles/using-thickeners-of-different-types-for-patients-with-swallowing-difficulties/

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KEY WORDS

Parkinson's disease, PD
Nil by mouth, NBM
Rotigotine
Levodopa, Co-beneldopa, Co-careldopa, Madopar, Sinimet

Contribution List

This key document has been circulated to the following individuals for consultation;

Name	Designation
Dr MTE Heafield	Consultant Neurologist
Julie Pittaway	Parkinson's Specialist Nurse
Dr Susan Powell	Consultant Geriatrician
Dr Claire Wilkes	Consultant Geriatrician
Dr Catherine Jackson	Consultant Geriatrician
Dr Ruma Dutta	Consultant Geriatrician
Morag Inglis	Dietetics and Speech & Language Therapy Manager
Mirjana Rasovic	Clinical Professional Lead and Macmillan Head and Neck Speech and Language Therapist
Alison Smith	Lead Pharmacist Medicines Safety/Medicines Safety Officer
Lindsay Stewart	Lead Pharmacist Speciality Medicine
Shane Kailla	Advanced Clinical Practitioner and Specialist Clinical Pharmacist Acute and Emergency Medicine
Sundus Irshad	Advanced Clinical Practitioner and Specialist Clinical Pharmacist in Acute Medicine

This key document has been circulated to the chair(s) of the following committee's / groups for comments;

Committee
Urgent Care Governance
Specialty Medicine DMB

Supporting Document 1 – Equality Impact Assessment form

To be completed by the key document author and included as an appendix to key document when submitted to the appropriate committee for consideration and approval.
Please complete assessment form on next page;

Herefordshire & Worcestershire STP - Equality Impact Assessment (EIA) Form
Please read EIA guidelines when completing this form

Section 1 - Name of Organisation (please tick)

Herefordshire & Worcestershire STP		Herefordshire Council		Herefordshire CCG	
Worcestershire Acute Hospitals NHS Trust		Worcestershire County Council		Worcestershire CCGs	
Worcestershire Health and Care NHS Trust	✠	Wye Valley NHS Trust		Other (please state)	

Name of Lead for Activity	**Dr Susan Powell, Dr MTE Heafield**

Details of individuals completing this assessment	**Name**	**Job title**	**e-mail contact**
	Sundus Irshad	Advanced Clinical Practitioner and Specialist Clinical Pharmacist in Acute Medicine	sundus.irshad@nhs.net
Date assessment completed	**04-10-2023**		

Section 2

Activity being assessed (e.g. policy/procedure, document, service redesign, policy, strategy etc.)	**Title:** **Guideline: Medicines Management of Parkinson's Disease Patients with Compromised Oral Administration**
What is the aim, purpose and/or intended outcomes of this Activity?	Implement a guideline to support staff in providing consistent and optimal medicines management for Parkinson's Disease patients with compromised oral administration.

Who will be affected by the development & implementation of this activity?	❑ × ❑ ❑	Service User Patient Carers Visitors	× ❑ ❑ ❑	Staff Communities Other _____
Is this:	× Review of an existing activity □ New activity ❑ Planning to withdraw or reduce a service, activity or presence?			
What information and evidence have you reviewed to help inform this assessment? (Please name sources, eg demographic information for patients / services / staff groups affected, complaints etc.	See reference list. There is no specific information for equality impact in the implementation of this guideline that is relevant for a review.			
Summary of engagement or consultation undertaken (e.g. who and how have you engaged with, or why do you believe this is not required)	See contribution list. No barriers identified or relevant to this guideline at present therefore no specific consultation about equality impact undertaken. The guideline covers all patients with Parkinson's Disease irrespective of any equality groups as listed below.			
Summary of relevant findings	No barriers or impact identified.			

Section 3

Please consider the potential impact of this activity (during development & implementation) on each of the equality groups outlined below. **Please tick one or more impact box below for each Equality Group and explain your rationale**. Please note it is possible for the potential impact to be both positive and negative within the same equality group and this should be recorded. Remember to consider the impact on e.g. staff, public, patients, carers etc. in these equality groups.

Equality Group	Potential positive impact	Potential neutral impact	Potential negative impact	Please explain your reasons for any potential positive, neutral or negative impact identified
Age		x		The guideline covers all patients with Parkinson's Disease irrespective of age.
Disability		x		The guideline covers all patients with Parkinson's Disease irrespective of disability.
Gender Reassignment		x		The guideline covers all patients with Parkinson's Disease irrespective of gender reassignment.
Marriage & Civil Partnerships		x		The guideline covers all patients with Parkinson's Disease irrespective of marriage and civil partnerships.

Equality Group	Potential positive impact	Potential neutral impact	Potential negative impact	Please explain your reasons for any potential positive, neutral or negative impact identified
Pregnancy & Maternity		x		The guideline covers all patients with Parkinson's Disease irrespective of pregnancy and maternity.
Race including Traveling Communities		x		The guideline covers all patients with Parkinson's Disease irrespective of race.
Religion & Belief		x		The guideline covers all patients with Parkinson's Disease irrespective of religion and belief.
Sex		x		The guideline covers all patients with Parkinson's Disease irrespective of sex.
Sexual Orientation		x		The guideline covers all patients with Parkinson's Disease irrespective of sexual orientation.
Other Vulnerable and Disadvantaged Groups (e.g. carers; care leavers; homeless; Social/Economic deprivation, travelling communities etc.)		x		The guideline covers all patients with Parkinson's Disease irrespective of any vulnerable or disadvantaged group characteristics.
Health Inequalities (any preventable, unfair & unjust differences in health status between groups, populations or individuals that arise from the unequal distribution of social, environmental & economic conditions within societies)		x		The guideline covers all patients with Parkinson's Disease irrespective of health inequalities.

Section 4

What actions will you take to mitigate any potential negative impacts?	Risk identified	Actions required to reduce / eliminate	Who will lead on the action?	Timeframe

		negative impact		
		.		
How will you monitor these actions?				
When will you review this EIA? (e.g in a service redesign, this EIA should be revisited regularly throughout the design & implementation)				

Section 5 - Please read and agree to the following Equality Statement

1. Equality Statement

1.1. All public bodies have a statutory duty under the Equality Act 2010 to set out arrangements to assess and consult on how their policies and functions impact on the 9 protected characteristics: Age; Disability; Gender Reassignment; Marriage & Civil Partnership; Pregnancy & Maternity; Race; Religion & Belief; Sex; Sexual Orientation

1.2. Our Organisations will challenge discrimination, promote equality, respect human rights, and aims to design and implement services, policies and measures that meet the diverse needs of our service, and population, ensuring that none are placed at a disadvantage over others.

1.3. All staff are expected to deliver services and provide services and care in a manner which respects the individuality of service users, patients, carer's etc, and as such treat them and members of the workforce respectfully, paying due regard to the 9 protected characteristics.

Signature of person completing EIA	Sundus Irshad 
Date signed	04-10-2023
Comments:	
Signature of person the Leader Person for this activity	Dr MTE Heafield
Date signed	06/10/2023
Comments:	

Supporting Document 2 – Financial Impact Assessment

To be completed by the key document author and attached to key document when submitted to the appropriate committee for consideration and approval.

	Title of document:	Yes/No
1.	Does the implementation of this document require any additional Capital resources	No
2.	Does the implementation of this document require additional revenue	No
3.	Does the implementation of this document require additional manpower	No
4.	Does the implementation of this document release any manpower costs through a change in practice	No
5.	Are there additional staff training costs associated with implementing this document which cannot be delivered through current training programmes or allocated training times for staff	No
	Other comments:	

If the response to any of the above is yes, please complete a business case and which is signed by your Finance Manager and Directorate Manager for consideration by the Accountable Director before progressing to the relevant committee for approval