Document Type:	Standard Operating Procedure	
Reference Number : **2092**	Version Number: **2**	Next Review Date: **22 November 2022**
Title:	**Apomorphine Initiation Guidelines for Parkinson Disease**	
Document Author:	Acute Parkinson's Disease Nurse Specialist	
Applicability:	All patients as indicated	

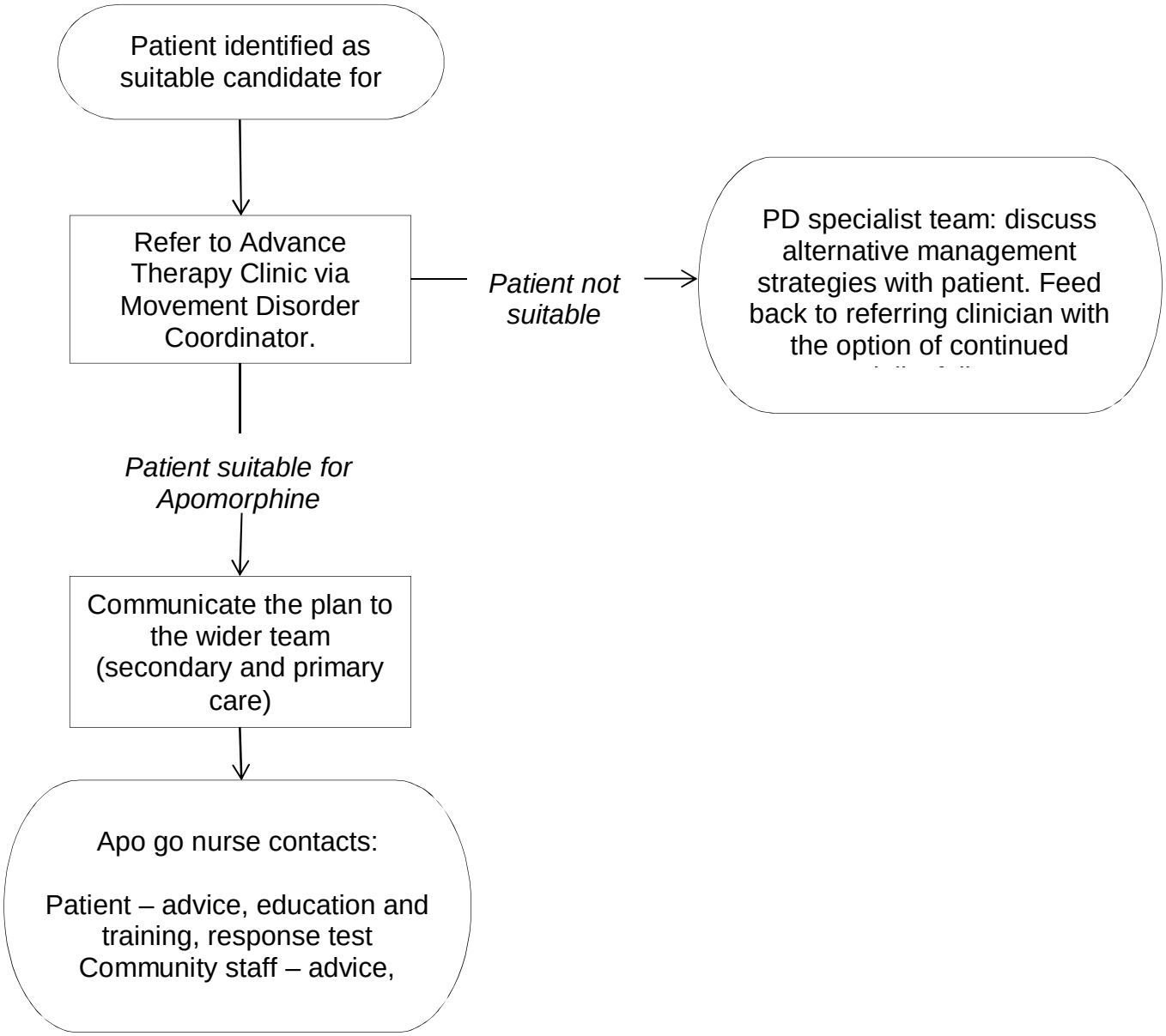
Purpose of this document:
To provide a clinical guideline relating specifically to apomorphine (APO-GO).The movement disorders team will assess patients and deem if they are suitable for apomorphine therapy. This team consists of Specialist Consultant Doctors (Care of the Elderly and Neurology), Acute Parkinson's Disease nurse specialist, community Parkinson's disease nurse specialist, Apo Go nurse and movement disorder coordinator. The Apo Go nurse's role is implemented via an honorary contract and the purpose of this role is to support and commence patients on apomorphine for the Trust.

1. Scope of this SOP:
This guideline is designed to inform staff caring for patients with complex Parkinson's Disease (PD) of the referral pathway for the consideration of apomorphine treatment. The guideline also provides information for nursing staff caring for patients undergoing apomorphine challenges and details the protocol of the challenge itself. This guideline will be useful to: consultants in neurology and care of the elderly caring for complex PD patients, neurology ward staff and PD specialist team members.

2. Competencies required:
It is the duty of all staff referring patients for apomorphine therapy and those staff involved in assessing and initiating therapy to be familiar with these guidelines.

3. Procedure / Steps:

Referral pathway for assessment:



Prior to the Apomorphine Response Test:

GP role (to be requested by Apo go nurse)

- Arrange baseline ECG
- Arrange baseline FBC, LFT and Coombs test
- Prescribe Domperidone 10mg TDS for 3 days prior to the test
- Plan for follow up ECG after 2 weeks on Apo go
- Plan for 6 monthly FBC, LFT, U&E, LDH and Coombs test

Acute Consultant / Acute Nurse Specialist role

- Prescribe Apomorphine pen on prescription chart
- Supply initial sharps bin
- Explain home care and get patient to sign registration form for continuing prescription

Apo Go nurse role

- Book day TAIRU room for challenge
- Ensure patient aware that morning medications need to be omitted on the day of the challenge and Rotigotine patch removed.
- Ensure patient is aware they should stop driving if Apomorphine causes somnolence
- Notify outpatient Pharmacy of Apo go pens (Gemma Hicks) ordered for response test

Guidelines on the Apomorphine Response Test:

- Ensure patient has understood the indication and potential side effects of the procedure and has signed their consent for the test to proceed
- GP to check ECG (apomorphine carries the risk of prolongation of the QT interval therefore QT interval should be normal prior to the test (0.33-0.44 sec or <11 small squares) and results of full blood count, liver function and Coomb's test (apomorphine can be associated with haemolytic anaemia therefore blood tests should be carried out 4-6 monthly whilst on therapy)
- Check patient has omitted morning medications and has taken three days of pre-treatment with Domperidone 10 mg TDS.
- Assess baseline motor function e.g. UPDRS motor score
  - Timed walk (if safe to do so based upon patient's symptoms)
  - Timed finger tapping test
- Check lying and standing blood pressure (BP)
- Administer 1mg APO-GO. Repeat motor and BP assessments after 30 minutes and observe for side effects.

- If there is no or a poor response, give a subsequent dose of 2-6mg APO-GO if appropriate. Repeat the motor and BP assessments after 30 minutes and monitor for side effects.
- Increase the dose in incremental steps every 30 minutes (i.e. 1.0mg, 3mg, 5mg, 6mg, 7mg) Stop when a positive response is seen. If at 7 mg there is no response, then the patient is termed a non-responder.

Positive apomorphine Challenge

A challenge is positive if the following is seen:

- An overall improvement of at least 30% of UPDRS motor score (part III).

Following a positive response test a patient will be discharged with the response pack of Apo Go pens at a dose agreed with the Apo Go nurse and prescriber. Subsequent prescriptions will be provided via the home delivery service.

It is the GP responsibility to undertake the follow up ECG, after 2 weeks on Apo Go and 3 monthly blood tests per guidance. This information will be detailed in a clinical letter to GP following a positive response test and this will be the responsibility of the Apo Go nurse to send this communication.

When considering a continuous infusion to include waking day (12-16 hours) variable flow or 24hour infusion, the following table can be used as a guide.

Infusion rates for the APO-GO ambulatory infusion pump (supplied by Britannia pharmaceuticals)

mg APO-GO per hour	ml of diluted solution per hour (flow rate)	Hours/minutes running time (100mg in 20 ml syringe)	Hours/minutes running time (50mg in 20ml syringe)
1.0	0.2		
1.5	0.3		
2.0	0.4		25.00
2.5	0.5		20.00
3.0	0.6		16.41
3.5	0.7		14.17
4.0	0.8	24.58	12.30
4.5	0.9	22.13	11.07
5.0	1.0	20.00	10.00
5.5	1.1	18.10	9.05
6.0	1.2	16.40	8.20
6.5	1.3	15.22	7.41
7.0	1.4	14.17	7.09
7.5	1.5	13.20	6.40
8.0	1.6	12.30	6.15
8.5	1.7	11.46	5.53
9.0	1.8	11.07	5.34
9.5	1.9	10.31	5.16
10.0	2.0	10.00	5.00

If a patient is admitted as an inpatient who is already having Apomorphine the ward staff should seek the advice of the acute PDNS, consultant or Apo go nurse.

Contraindications to the use of Apomorphine

- Respiratory depression
- Dementia
- Psychosis
- Hepatic insufficiency
- Known sensitivity to apomorphine
- Pregnancy
- Patients under 18

Special warnings and precautions

- Use with caution in renal, pulmonary or cardiovascular disease and patients prone to nausea and vomiting.
- Extra caution is needed in elderly or debilitated patients who may be more at risk of developing side effects.
- Apomorphine can lead to marked hypotension therefore caution is needed in treating patients with cardiovascular disease, patients on anithypertensives and those with a pre-existing tendency to postural hypotension.
- Apomorphine is associated with local subcutaneous reactions which can sometimes be reduced by rotating the site of injection and massaging the skin.
- Haemolytic anaemia has been reported in patients taking apomorphine and levodopa. Coombs tests and liver function tests should be performed at 3-monthly intervals.
- Patients suffering with neuropsychiatric disturbances may find that this is exacerbated by apomorphine.
- Impulse control disorders (ICDs) have been described in patients taking dopamine agonists including apomorphine. Patients should be screened for ICDs prior to starting therapy and at regular intervals thereafter. Patients and their carers must be made aware of this potential side effect and this advice must be clearly documented.
- Apomorphine can cause somnolence: in this event patients should not drive and exercise caution when operating machinery.
- Since apomorphine, especially at high dose, may have the potential for QT prolongation, caution should be exercised when treating patients at risk for torsades de pointes arrhythmia.
- Apomorphine hydrochloride contains sodium metabisulphite which may rarely cause severe hypersensitivity reactions and bronchospasm. It also contains sodium at less than 1mmol (23mg) per ml, i.e. essentially 'sodium-free'.

Document Control Information

This is a controlled document and should not be altered in any way without the express permission of the author or their representative.

Please note this document is only valid from the date approved below, and checks should be made that it is the most up to date version available.

If printed, this document is only valid for the day of printing.

This guidance has been registered with the Trust. The interpretation and application of guidance will remain the responsibility of the individual clinician. If in doubt contact a senior colleague or expert. Caution is advised when using clinical guidance after the review date, or outside of the Trust.

Ref No:	2092		
Document title:	Apomorphine Initiation Guidelines for Parkinson Disease		
Purpose of document:			
Date of issue:	22 November 2019	**Next review date:**	22 November 2022
Version:	2	**Last review date:**	
Author:	Acute Parkinson's Disease Nurse Specialist		
Directorate:	General Medicine		
Equality Impact:	The guidance contained in this document is intended to be inclusive for all patients within the clinical group specified, regardless of age, disability, gender, gender identity, sexual orientation, race and ethnicity & religion or belief		
Committee(s) approving the document:	Clinical Lead for Parkinsons Disease Clinical Director – Pharmacy and Prescribing		
Date approved:	12 November 2019		
Links or overlaps with other policies:			

Have you identified any issues on the Rapid (E)quality Impact Assessment. If so please detail on Rapid (E)QIA form.	Yes ☐	
	Please select *Yes*	*No*
Does this document have implications regarding the Care Act? *If yes please state:*	☐	☐
Does this document have training implications? *If yes please state:*	☐	☐
Does this document have financial implications? *If yes please state:*	☐	☐
Is this document a direct replacement for another? *If yes please state which documents are being replaced:*	☐	☐

Document Amendment History

Date	Version no.	Amendment summary	Ratified by:
04 November 2016	1	New	Service Delivery Unit – Medical Services Clinical Director of Pharmacy
22 November 2019	2	Revised	Clinical Lead for Parkinsons Disease Clinical Director – Pharmacy and Prescribing

The Mental Capacity Act 2005

The Mental Capacity Act provides a statutory framework for people who lack capacity to make decisions for themselves, or who have capacity and want to make preparations for a time when they lack capacity in the future. It sets out who can take decisions, in which situations, and how they should go about this. It covers a wide range of decision making from health and welfare decisions to finance and property decisions

Enshrined in the Mental Capacity Act is the principle that people must be assumed to have capacity unless it is established that they do not. This is an important aspect of law that all health and social care practitioners must implement when proposing to undertake any act in connection with care and treatment that requires consent. In circumstances where there is an element of doubt about a person's ability to make a decision due to 'an impairment of or disturbance in the functioning of the mind or brain' the practitioner must implement the Mental Capacity Act.

The legal framework provided by the Mental Capacity Act 2005 is supported by a Code of Practice, which provides guidance and information about how the Act works in practice. The Code of Practice has statutory force which means that health and social care practitioners have a legal duty to have regard to it when working with or caring for adults who may lack capacity to make decisions for themselves.

"The Act is intended to assist and support people who may lack capacity and to discourage anyone who is involved in caring for someone who lacks capacity from being overly restrictive or controlling. It aims to balance an individual's right to make decisions for themselves with their right to be protected from harm if they lack the capacity to make decisions to protect themselves". (3)

All Trust workers can access the Code of Practice, Mental Capacity Act 2005 Policy, Mental Capacity Act 2005 Practice Guidance, information booklets and all assessment, checklists and Independent Mental Capacity Advocate referral forms on iCare

http://icare/Operations/mental_capacity_act/Pages/default.aspx

Infection Control

All staff will have access to Infection Control Policies and comply with the standards within them in the work place. All staff will attend Infection Control Training annually as part of their mandatory training programme.

Rapid (E)quality Impact Assessment (EqIA) *(for use when writing policies)*

Policy Title (and number)	Subcutaneous Apomorphine in the treatment of Parkinson's Disease (2092)	Version and Date	2
Policy Author	Acute Parkinson's Disease Nurse Specialist		

An (e)quality impact assessment is a process designed to ensure that policies do not discriminate or disadvantage people whilst advancing equality. Consider the nature and extent of the impact, not the number of people affected.

Who may be affected by this document?

Patients/ Service Users ☐	Staff ☐	Other, please state… ☐

Could the policy treat people from protected groups less favourably than the general population?
PLEASE NOTE: Any 'Yes' answers may trigger a full EIA and must be referred to the equality leads below

Age	Yes ☐ No☒	Gender Reassignment	Yes ☐ No☒	Sexual Orientation	Yes ☐ No☒
Race	Yes ☐ No☒	Disability	Yes ☐ No☒	Religion/Belief (non)	Yes ☐ No☒
Gender	Yes ☐ No☒	Pregnancy/Maternity	Yes ☐ No☒	Marriage/ Civil Partnership	Yes ☐ No☒

Is it likely that the policy could affect particular 'Inclusion Health' groups less favourably than the general population? (substance misuse; teenage mums; carers[1]; travellers[2]; homeless[3]; convictions; social isolation[4]; refugees)	Yes ☐ No☒

Please provide details for each protected group where you have indicated 'Yes'.

VISION AND VALUES: Policies must aim to remove unintentional barriers and promote inclusion

Is inclusive language[5] used throughout?	Yes ☐ No☐ NA ☐
Are the services outlined in the policy fully accessible[6]?	Yes ☐ No☐ NA ☐
Does the policy encourage individualised and person-centred care?	Yes ☐ No☐ NA ☐
Could there be an adverse impact on an individual's independence or autonomy[7]?	Yes ☐ No☐ NA ☐

EXTERNAL FACTORS

Is the policy a result of national legislation which cannot be modified in any way?	Yes ☐ No☐

What is the reason for writing this policy? (Is it a result in a change of legislation/ national research?)

Who was consulted when drafting this policy?

Patients/ Service Users ☐	Trade Unions ☐	Protected Groups (including Trust Equality Groups) ☐
Staff ☐	General Public ☐	Other, please state… ☐

What were the recommendations/suggestions?

Does this document require a service redesign or substantial amendments to an existing process? PLEASE NOTE: 'Yes' may trigger a full EIA, please refer to the equality leads below	Yes ☐ No☐

ACTION PLAN: Please list all actions identified to address any impacts

Action	Person responsible	Completion date

AUTHORISATION:
By signing below, I confirm that the named person responsible above is aware of the actions assigned to them

Name of person completing the form		Signature	
Validated by (line manager)		Signature	

Please contact the Equalities team for guidance:
For South Devon & Torbay CCG, please call 01803 652476 or email marisa.cockfield@nhs.net
For Torbay and South Devon NHS Trusts, please call 01803 656676 or email pfd.sdhct@nhs.net
This form should be published with the policy and a signed copy sent to your relevant organisation

Clinical and Non-Clinical Policies – Data Protection

Torbay and South Devon NHS Foundation Trust (TSDFT) has a commitment to ensure that all policies and procedures developed act in accordance with all relevant data protection regulations and guidance. This policy has been designed with the EU General Data Protection Regulation (GDPR) and Data Protection Act 2018 (DPA 18) in mind, and therefore provides the reader with assurance of effective information governance practice.

The UK data protection regime intends to strengthen and unify data protection for all persons; consequently, the rights of individuals have changed. It is assured that these rights have been considered throughout the development of this policy. Furthermore, data protection legislation requires that the Trust is open and transparent with its personal identifiable processing activities and this has a considerable effect on the way TSDFT holds, uses, and shares personal identifiable data.

Does this policy impact on how personal data is used, stored, shared or processed in your department? Yes ☐ No ☐

If yes has been ticked above it is assured that you must complete a data mapping exercise and possibly a Data Protection Impact Assessment (DPIA). You can find more information on our GDPR page on ICON (intranet)

For more information:

- Contact the Data Access and Disclosure Office on dataprotection.tsdft@nhs.net,
- See TSDFT's Data Protection & Access Policy,
- Visit our Data Protection site on the public internet.