

Document Type:	Standard Operating Procedure	
Reference Number : <b>2143</b>	Version Number: <b>1</b>	Next Review Date: <b>10 March 2022</b>
Title:	<b>Subcutaneous Apomorphine in the treatment of Parkinson's Disease. Continuous Infusion (Long term).</b>	
Document Author:	Acute Parkinson's Disease Nurse Specialist	
Applicability:	All patients	

### **Purpose of this document:**

To provide a clinical guideline relating specifically to continuous infusion subcutaneously of apomorphine (APO-GO).

The movement disorders team will assess patients and deem if they are suitable for apomorphine therapy which is commenced and normally managed within the community. This SOP refers to when registered nursing staff may have to administer the infusion either in an acute or community setting.

For information, the movement disorder team consists of Specialist Consultant Doctors (Care of the Elderly and Neurology), acute Parkinson's Disease nurse specialist, community Parkinson's disease nurse specialists, 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 Parkinson's Disease (PD) who require a continuous infusion of Apomorphine either in a hospital setting or the community. This SOP only relates to patients already initiated on treatment with Apomorphine. For details of new initiation please refer to SOP Ref No: [2092](#).

This guideline will also 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:**

In order to administer Apomorphine by subcutaneous infusion you are required to complete the associated competencies as a registered nurse. This is in addition to being up to date with clinical mandatory training.

### **3. Procedure / Steps:**

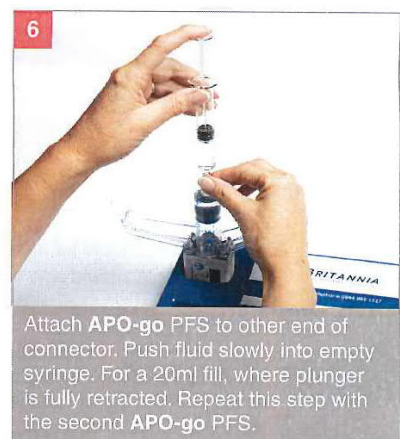
- Identify and list relevant Trust SOPs, Medicines Management related procedures and policies
- Wash your hands.

- Check you have the correct prescription details and the correct patient for the apomorphine infusion. Advise the patient about the procedure and ensure they are consenting to you undertaking the procedure.
- Make sure you have the required equipment:
  - A) 1x Apo Go Pump
  - B) 1x Apo Go pre filled syringe (50mg in 10ml for s/c infusion) (x1 for 10ml fill and x2 for 20ml fill).
  - C) 1x Empty plastic syringe (this must be Apomorphine syringe with removal plunger).
  - D) 1x connector.
  - E) 1X infusion line with needle.



1. Firstly wash your hands. Ensure the plunger is extended if 10ml or retracted if 20ml fill. If plunger is still fully extended (from previous infusion) press blue and grey buttons together until you hear a long beep if the plunger needs to be retracted. Check that the machine is registered for a 10ml or 20ml fill. This will be displayed on the left hand side of the screen.
2. Place the Apo go pump in the blue stand provided (as per picture 2). Check it is set to OFF. Fold back the wings.
3. Open the empty syringe (discard in a sharps box the needle that comes with the Apomorphine syringe as this is not required). Ensure the barrel of the syringe is as far in to the barrel as it can be. Unscrew the plunger.
4. Attach the empty syringe to the pump, ensure it clicks in to place.
5. Apply the connector to the empty syringe.
6. Attach the Apomorphine pre filled syringe to the connector and very slowly push the fluid in to the empty syringe. Repeat this step if 20ml fill.
7. Remove the pre filled syringe from the connector and remove the connector.
8. Attached the infusion line to the syringe and then close the plastic wings.
9. To switch pump on press Red + button (on/off button). Wait for the long beep and then release. Check the dose of both flow and boost rate:
  - Flow rate, this is shown in mls per hour: 0.2ml =1mg of Apomorphine (using 5mg/ml as per pre filled syringe). Press and hold the – button (grey) until you hear a beep then release and the Flow rate will flash e.g. F 0.50 = 0.5ml per hour.
  - Priming/bolus dose: press and hold the blue button (labelled d and p) and then d will be displayed (if you do this when it is turned ON you give a boost, if just checking pause pump first with red on/off button).
  - To prime the infusion press and hold the blue button labelled d p. Wait for the machine to bleep and then release. Wash your hands and check prescription and patient details again.
  - Discuss with patient the procedure.

10. Insert the needle in the correct way for the needle used (please note angle of insertion will depend on needle used). Be very aware of the risk of skin problems, ensure that you do not insert the needle in to a nodule. Wash your hands and document the procedure.



To STOP the Apomorphine infusion.

- Wash your hands and advise the patient that infusion is coming to an end and the procedure to stop.
- Press and hold the Red + button (labelled on/off), press it until you hear a long beep screen will show STOP
- Press – (grey) button to silence the beeping and then remove the needle and remove the line.
- Press and hold the blue (labelled d and p) button and – (grey) button to retract the plunger together.
- Do not remove the syringe until pump has finished retracting and shows Off., discard as per infection control guidelines.
- Wash your hands and check the infusion site and encourage massage to prevent nodule formation.

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 antihypertensives and those with a pre-existing tendency to postural hypotension
- Apomorphine is associated with local subcutaneous reactions which can be 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 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'.

**4. Monitoring tool:**

Standards:

Item	%	Exceptions
Medication adherence	100	None

**Equality Statement.**

The Trust is committed to preventing discrimination, valuing diversity and achieving equality of opportunity. No person (staff, patient or public) will receive less favourable treatment on the grounds of the nine protected characteristics (as governed by the Equality Act 2010): Sexual Orientation; Gender; Age; Gender Reassignment; Pregnancy and Maternity; Disability; Religion or Belief; Race; Marriage and Civil Partnership. In addition to these nine, the Trust will not discriminate on the grounds of domestic circumstances, social-economic status, political affiliation or trade union membership.

The Trust is committed to ensuring all services, policies, projects and strategies undergo equality analysis. For more information about equality analysis and [Equality Impact Assessments](#) please refer to the [Equality and Diversity Policy](#)

**References:**

1. Cotzias et al. 1976. Treatment of Parkinson's Disease with aporphines. Possible role of growth hormone. NEJM 294 (11): n567-572
2. Dewey et al. 2001. A randomised double blind controlled trial of subcutaneously injected apomorphine for Parkinsonian off states. Arch Neurol 58: 1385-1392
3. Stibe et al. 1988. Subcutaneous apomorphine in parkinsonian on-off oscillations. Lancet 1: 403-406.
4. Tyne et al. 2004. A 10-year retrospective audit of long-term apomorphine use in Parkinson's Disease. J Neurol 251: 1370-1374.



**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.*

<b>Ref No:</b>	2143		
<b>Document title:</b>	Apomorphine Subcutaneous in the treatment of Parkinson's Disease		
<b>Purpose of document:</b>	To provide a clinical guideline relating specifically to continuous infusion subcutaneously of apomorphine (APO-GO)		
<b>Date of issue:</b>	16 November 2018	<b>Next review date:</b>	10 March 2022
<b>Version:</b>	1	<b>Last review date:</b>	
<b>Author:</b>	Acute Parkinson's Disease Nurse Specialist		
<b>Directorate:</b>	Medical Services		
<b>Equality Impact:</b>	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		
<b>Committee(s) approving the document:</b>	Service Delivery Unit Clinical Director of Pharmacy		
<b>Date approved:</b>	19 November 2018		
<b>Links or overlaps with other policies:</b>	2092 - Apomorphine, subcutaneous, in the treatment of Parkinson's Disease, Guidelines for the use of		

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

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<b>Date</b>	<b>Version no.</b>	<b>Amendment summary</b>	<b>Ratified by:</b>
10 March 2017	1	New SOP	Service Delivery Unit Clinical Director of Pharmacy
2 February 2018	1	Review date extended from 2 years to 3 years	
16 November 2018	1	Date change	Acute Parkinson's Disease Nurse Specialist Clinical Director of Pharmacy

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## 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](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.



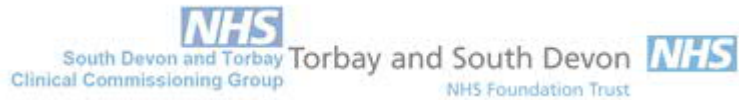
**Quality Impact Assessment (QIA)**

Who may be affected by this document?	Please select			
	Patient / Service Users	<input checked="" type="checkbox"/>	Visitors / Relatives	<input checked="" type="checkbox"/>
	General Public	<input type="checkbox"/>	Voluntary / Community Groups	<input type="checkbox"/>
	Trade Unions	<input type="checkbox"/>	GPs	<input type="checkbox"/>
	NHS Organisations	<input type="checkbox"/>	Police	<input type="checkbox"/>
	Councils	<input type="checkbox"/>	Carers	<input type="checkbox"/>
	Staff	<input checked="" type="checkbox"/>	Other Statutory Agencies	<input type="checkbox"/>
	Others (please state):			

Does this document require a service redesign, or substantial amendments to an existing process? <b>No</b>	<input type="checkbox"/>
<i>If you answer yes to this question, please complete a full Quality Impact Assessment.</i>	

Are there concerns that the document could adversely impact on people and aspects of the Trust under one of the nine strands of diversity?  <b>No</b>	Age	<input type="checkbox"/>	Disability	<input type="checkbox"/>
	Gender re-assignment	<input type="checkbox"/>	Marriage and Civil Partnership	<input type="checkbox"/>
	Pregnancy and maternity	<input type="checkbox"/>	Race, including nationality and ethnicity	<input type="checkbox"/>
	Religion or Belief	<input type="checkbox"/>	Sex	<input type="checkbox"/>
	Sexual orientation	<input type="checkbox"/>		
<i>If you answer yes to any of these strands, please complete a full Quality Impact Assessment.</i>				
If applicable, what action has been taken to mitigate any concerns?				

Who have you consulted with in the creation of this document?  <i>Note - It may not be sufficient to just speak to other health &amp; social care professionals.</i>	Patients / Service Users	<input type="checkbox"/>	Visitors / Relatives	<input type="checkbox"/>
	General Public	<input type="checkbox"/>	Voluntary / Community Groups	<input type="checkbox"/>
	Trade Unions	<input type="checkbox"/>	GPs	<input type="checkbox"/>
	NHS Organisations	<input type="checkbox"/>	Police	<input type="checkbox"/>
	Councils	<input type="checkbox"/>	Carers	<input type="checkbox"/>
	Staff	<input checked="" type="checkbox"/>	Other Statutory Agencies	<input type="checkbox"/>
	Details (please state):			



**Rapid Equality Impact Assessment** (for use when writing policies and procedures)

<b>Policy Title</b> (and number)	<b>2143 Apomorphine subcutaneous in the treatment of Parkinson's Disease</b>		<b>Version and Date</b>	<b>1 December 2016</b>	
<b>Policy Author</b>	Acute Parkinson's Disease Nurse Specialist				
An equality impact assessment (EIA) is a process designed to ensure that a policy, project or scheme does not discriminate or disadvantage people. EIAs also improve and promote equality. Consider the nature and extent of the impact, not the number of people affected.					
<b>EQUALITY ANALYSIS:</b> How well do people from protected groups fare in relation to the general population? <i>PLEASE NOTE: Any 'Yes' answers may trigger a full EIA and must be referred to the equality leads below</i>					
<b>Is it likely that the policy/procedure could treat people from protected groups less favourably than the general population? (see below)</b>					
Age	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Disability	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Sexual Orientation	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Race	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Gender	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Religion/Belief (non)	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Gender Reassignment	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Pregnancy/ Maternity	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Marriage/ Civil Partnership	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
<b>Is it likely that the policy/procedure could affect particular 'Inclusion Health' groups less favourably than the general population?</b> (substance misuse; teenage mums; carers <sup>1</sup> ; travellers <sup>2</sup> ; homeless <sup>3</sup> ; convictions; social isolation <sup>4</sup> ; refugees)					Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
<b>Please provide details for each protected group where you have indicated 'Yes'.</b>					
<b>VISION AND VALUES:</b> Policies must aim to remove unintentional barriers and promote inclusion					
Is inclusive language <sup>5</sup> used throughout?					Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Are the services outlined in the policy/procedure fully accessible <sup>6</sup> ?					Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Does the policy/procedure encourage individualised and person-centred care?					Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Could there be an adverse impact on an individual's independence or autonomy <sup>7</sup> ?					Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
If 'Yes', how will you mitigate this risk to ensure fair and equal access?					
<b>EXTERNAL FACTORS</b>					
<b>Is the policy/procedure a result of national legislation which cannot be modified in any way?</b>					Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
<b>What is the reason for writing this policy?</b> (Is it a result in a change of legislation/ national research?)					
<b>To support clinical practice</b>					
<b>Who was consulted when drafting this policy/procedure? What were the recommendations/suggestions?</b>					
Pharmacy team. Apomorphine Nurse Specialist					
<b>ACTION PLAN:</b> Please list all actions identified to address any impacts					
<b>Action</b>	<b>Person responsible</b>		<b>Completion date</b>		
<b>AUTHORISATION:</b>					

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

<b>Name of person completing the form</b>	Acute Parkinson's Disease Nurse Specialist	<b>Signature</b>	
<b>Validated by (line manager)</b>	Modern Matron	<b>Signature</b>	

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## 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.tsdf@nhs.net](mailto:dataprotection.tsdf@nhs.net),
- See TSDFT's [Data Protection & Access Policy](#),
- Visit our [Data Protection](#) site on the public internet