Prescribing support - Apomorphine for Parkinson's Disease in primary care for patients ≥18 years old This guidelines outlines the contraindications, cautions, drug interactions, monitoring, specialist and GP responsibilities for apomorphine prescribing.	
Indication	The treatment of motor fluctuations ('on-off' phenomena) in patients with Parkinson's disease which are not sufficiently controlled by oral anti-Parkinson medication.
Drug interactions (N.B. this is not an exhaustive list. Consult the BNF and SPC for full details)	• Antihypertensives • Drugs known to prolong the QT interval e.g. amiodarone, citalopram, clarithromycin, sotalol etc. • Drugs with a narrow therapeutic window – the effects of apomorphine on plasma concentration has not been studied • Neuroleptic medications – may decrease the effects of apomorphine • Ondansetron (profound hypotension and loss of consciousness reported when co-administered)
Monitoring	As part of the specialist responsibilities, the following tests may be performed every 6-12 months: • FBC, LFTs, Renal function, ESR • Test for haemolytic anaemia and thrombocytopenia in patients *with concomitant levodopa* • Coombs test- Will require frequent FBC if Coombs positive; consider haematologist referral • Cardiovascular function (ECG) - To exclude cardiac conduction problems or significant cardiac disease - Domperidone is used on apomorphine initiation to prevent nausea and vomiting. Concomitant use of apomorphine and domperidone can increase the risk of QT prolongation. Undertake an ECG prior to treatment with domperidone, during treatment initiation and clinically indicated thereafter • BP
Specialist responsibilities	Apomorphine is initiated in hospital only by specialist consultant. Dose adjustments are by specialists only. • Confirm diagnosis • Discuss benefits and side effects of apomorphine with patient • Check contraindications and cautions to manage patient in line with the licensed product • Perform baseline and ongoing blood tests including FBC, LFTs, renal function tests, ESR, cardiovascular function (ECG) and BP (as per the monitoring above) • Ensure suitability for apomorphine i.e. check contraindications, cautions, drug interactions with existing medications • Arrange apomorphine challenge test for patient with Apo-go/D-mine specialist nurses. This can be done in hospital (day attender ward) or patient's own home - Provide written titration guidance for Apo-go/D-mine specialist nurses for challenge test - Prescribe domperidone (if suitable) to start at least 2 days prior to initiation. Perform an ECG prior to using domperidone (see MHRA drug safety update May 2014). Use lowest effective dose and for shortest required time • Determine optimal dose for patient • Inform GP by clinic letter initiation of apomorphine for patient including: - Brand (Apo-go®/Dacepton®) - Dose

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	- Route of administration (subcutaneous injection or continuous subcutaneous infusion) - Frequency of routine follow up in specialist clinic • Review patient every 6-12 months (or more frequently as necessary), monitor and titrate apomorphine dose as appropriate • Ensure dose adjustments/changes in treatment are communicated to the GP promptly • Report any adverse events experienced by patients to the MHRA on a Yellow card https://yellowcard.mhra.gov.uk/ • Be available to provide advice and support to Parkinson's Disease Nurse Specialist (PDNS), Apo-go/D-mine specialist nurses and GP when needed
GP responsibilities	• Take over prescribing of apomorphine in primary care • Prescribe apomorphine at the brand (apomorphine is brand specific), dose and route of administration as recommended by the specialist • Prescribe the necessary ancillary items e.g. reservoirs, infusions lines. **The required ancillary items to be prescribed differs between Apo-go® (see below for helpline number) and Dacepton® https://www.d-minecare.co.uk/en/professional/dacepton/prescribing-and-ordering/)** • Adjustments to apomorphine are made by the specialist team ONLY. Adjust the dose, frequency, route of administration, change or stop treatment ONLY as advised by the specialist team • Prescribe any additional drugs that are required e.g. domperidone as advised by the specialist team • Check for drug interactions with apomorphine when new medicines are initiated • Consult specialist team promptly if have any concerns about the patient that may affect treatment or if you have any issues or concerns related to the prescribing of apomorphine. Patients can also receive further information from the specialist nurse via the drug helpline numbers below • Report adverse events to the specialist team and the MHRA on a Yellow card https://yellowcard.mhra.gov.uk/ (if not already done by specialist team)
Supply of ancillary items e.g. needles, infusion lines Specialist to provide clear written information to the GP about the recommended ancillary equipment to allow GP to continue to prescribe (e.g. state specific type/code of Neria infusion lines).	**APO-go Pens** This is a disposable multiple dose pen injector system incorporating a clear glass cartridge. The patient will usually have been given a supply by the hospital. GP to continue prescribing in multiples of 5. Britannia provides the needles free of charge with the pack of pens, and thereafter, as and when required by the patient. Needles supplied are 8mm (30G) **APO-go ampoules and pre-filled syringes** The pre-filled syringes are pre-diluted and therefore do not require dilution prior to use. The ampoules may need to be diluted before use (patient will be instructed by specialist nurse) with sodium chloride 0.9%, which will be prescribed by the GP. Both the pre-filled syringes and ampoules are used with either a mini-pump (Crono APO-go III Infusion Pump) or a syringe driver, for continuous subcutaneous infusion. The mini-pump/syringe driver will be loaned to the patient by Britannia. GP to prescribe infusion lines (Neria lines, 1 per day). **APO-go POD cartridges** The POD cartridge is a pre-diluted solution intended for use without dilution as a continuous subcutaneous infusion by mini-pump (Crono APO-go III Infusion Pump or the Crono PAR4 20 Infusion Pump) and the CronoBell sleeve. The patient will have been given an initial supply by the hospital. The GP to continue prescribing in multiples of 5. The GP to prescribe infusion lines (Neria lines, 1 per day). The mini-pump will be loaned to the patient by Britannia and CronoBell sleeves supplied free of charge.

	Dacepton cartridges (click here for an example prescription) The patient will have been given a D-mine pen and an initial supply of cartridges by the hospital. GP to continue prescribing in multiples of 5. The company provides needles free of charge and thereafter, as and when required by the patient. Needles supplied are 8mm (30G) **Dacepton solution for infusion vials and pump reservoirs** (Click here for an example prescription) The vials are for subcutaneous infusion use via the D-mine pump. This does not require dilution prior to use. The 20ml vial and reservoirs are prescribable on a FP10. The patient will have been given an initial supply by the hospital and the D-mine pump loaned to the patient. GP to continue prescribing the vials in multiples of 5 and reservoirs in multiples of 10. The combi stoppers and infusion lines that are used with the D-mine pump, are supplied free of charge by the company.

The most current edition of the British National Formulary (BNF) and the manufacturer's summary of product characteristics (SPC) should be consulted for full information on contraindications, cautions, warnings, drug interactions and side effects.

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Manufacturers 24-hour helpline: (available to patients and healthcare professionals)		
Apo-go® helpline Dacepton® helpline	0808 196 4242 0800 254 0175	

References:

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