Apomorphine is a directly acting dopaminergic agonist, licensed for use in patients with Parkinson’s Disease (PD) who have frequent and/or severe akinesia (“off periods”) not controlled by levodopa or other dopamine agonists. Treatment is by intermittent sub-cutaneous injection at the onset of an “off” period or by continuous sub-cutaneous infusion usually over 12 hours. The use of apomorphine in people with PD with severe motor complications is included in NICE Guidelines for Parkinson’s Disease (CG 35 June 2006). Initiation of apomorphine is restricted to Consultants within expert units with facilities for appropriate monitoring. Thereafter, on-going treatment may be continued in primary care in accordance with this shared care guideline. GPs should be invited to enter into a shared care agreement and should familiarise themselves with the drug treatment and the requirements for monitoring before agreeing to undertake prescribing. If a GP is not confident to undertake these roles, then they are under no obligation to do so. In such an event, the clinical responsibility for the patient, including issuing prescriptions, remains with the specialist team.

**Responsibilities of specialist team**
- Patient selection and conduct any necessary baseline assessments to determine suitability.
- Ensure arrangements for continued prescribing are in place and that the GP is willing to continue treatment.
- Ensure that the patient/ carer understands the treatment (including provision of information) and plan for follow-up care.
- Start domperidone 20 mg three times daily three days prior to apomorphine challenge and arranging day case admission for apomorphine challenge.
- Initiation of either intermittent apomorphine injection or continuous infusion driver and optimisation of antiparkinsonian drug therapy.
- Monitoring and evaluation of adverse drug reactions, disease and drug response.
- Provision of telephone contact for patients, carers and health professionals, with clear arrangements for back-up advice and support should further assistance be required.
- Discontinuation of treatment when considered to be no longer efficacious or if side-effects outweigh benefits, and advice to GPs on when to stop treatment or alter dose.
- Arrangement of review dates at clinically relevant time intervals for both the GP and the consultant.
- Prompt communication with GP of any changes in treatment or dose requirements, results of monitoring undertaken and assessment of adverse events.
- Confirmation of apomorphine and equipment supply arrangements with relevant community pharmacy / dispensing surgery.

**Responsibilities of GP**
- To accept shared care and agree to review the patient's overall care package.
- To inform the specialist team of any significant developments, or deterioration, such as the occurrence of side effects or an inability to administer apomorphine.
- Perform a full blood count at 4-6 monthly intervals.
- BP monitoring at 4-6 monthly intervals.
- Prescribe on-going apomorphine therapy and domperidone if required, as recommended by the specialist team.
- To facilitate the co-ordination of on-going patient care within the community and home environment.

**Responsibilities of patient**
- Report any adverse effects to their GP and/or specialist regarding their treatment.
- Ensure that they have a clear understanding of their treatment.
- Ensure they attend for monitoring requirements as per shared care guideline.
- Take prescriptions to the pharmacy / dispensing surgery as soon as possible so that they have adequate time to obtain supplies of the medicine (unless home care delivery).

**Availability of back-up advice and support**
Parkinson Disease Nurse Specialists (Ruth Moore, Dianne Harrison, Jane Williams), Princess of Wales Community Hospital, Bromsgrove tel 01527 488000
APO-go helpline 24/7 HELPLINE available 52 weeks a year 0844 880 1327

**Approved by APC: December 2011**

**Review date: December 2014**
Prescribing Information - this information should be read in conjunction with the current BNF and SPC.

Dosage and administration
Treatment is by intermittent sub-cutaneous injection at the onset of an “off” period or by continuous sub-cutaneous infusion usually over 12 hours. Following a single dose, apomorphine has an onset of action of 5-15 minutes and lasts for 45-90 minutes. Candidates for apomorphine therapy are those capable of recognising and anticipating “off” episodes. They must also be capable and motivated in order to use the treatment properly. Apomorphine is occasionally used for patients with swallowing difficulties at the palliative stage – a bolus injection before mealtimes can help reduce the need for a PEG.

1. Apomorphine may be administered as a “rescue therapy” with intermittent subcutaneous bolus injections given via a prefilled pen or a standard 1ml syringe.
2. For those patients who experience more complex motor fluctuations, including dyskinesias, a continuous subcutaneous infusion using an ambulatory pump may be used with the pre-filled syringe (PFS)

The dose of apomorphine is carefully titrated on an individual basis, and can range from a few milligrams daily by intermittent subcutaneous injections, up to 100 mg daily by continuous infusion. In rare cases it may be necessary to give higher doses. A continuous infusion ambulatory pump is used for patients that have shown a good ‘on’ response to the drug but whose overall control remains unsatisfactory using intermittent injections. Alternatively patients who require frequent injections (6-8 per day) may be transferred to a continuous infusion administered via a pump to reduce potential problems with injection sites. Some patients are initiated on a pump without first trying intermittent injections. Patients experiencing disabling and exhausting dyskinesias may also benefit from a continuous infusion, as it may allow their oral levodopa medication to be reduced. Experience has found that managing this group of patients on a combination of apomorphine and oral dopamine agonists and subsequently reducing or even stopping levodopa can dramatically reduce dyskinesias. It is thought a 30% reduction in levodopa can be made almost immediately once an infusion is commenced.

The Ambulatory Infusion Pump, dedicated 20ml syringes and connectors are supplied free of charge by Genus Pharmaceuticals.

Contra-indications
Respiratory depression, hypersensitivity to apomorphine or any excipients of the medicinal product, not suitable if ‘on’ response to levodopa marred by severe dyskinesia, hypotonia or psychiatric effects, hepatic impairment, breast feeding, not for intravenous administration

Side-effects
- Nausea and vomiting
- Postural hypotension – usually only transient on initiation of treatment
- Inflammation and formation of nodules at injection sites.
- Confusion, hallucinations
- Dyskinesias
- Eosinophilia in up to 10% of patients, may rarely cause haemolytic anaemia

Drug interactions
Patients should be monitored for potential interactions during initial stages of apomorphine therapy. Particular caution should be given in patients with pre-existing cardiac disease or in patients taking asoactive medicinal products such as antihypertensives, and especially in patients with pre-existing postural hypotension.

Monitoring
Specialist Team:
- Undertake any baseline assessments
- Monitoring therapy and evaluation of adverse drug reactions
- BP monitoring (e.g. standing and sitting) during initiation and any dose titration phase

General Practice:
- Perform a full blood count at 4-6 monthly intervals
- BP monitoring at 4-6 monthly intervals

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