Parkinson's: Managing Terminal Symptoms in PD "At a Glance"

Symptom	1st / 2nd line medications	Notes
Rigidity	**1st line:** Midazolam 2.5mg – 5mg S/C PRN hourly max. 30mg/24h +/-Morphine, if pain is associated with it (see below)	1. Ensure they are receiving their medications at the correct times. 2. Rule out constipation, which delays absorption. 3. Increasing the dose of dopaminergic therapies is unlikely to be helpful and may cause delirium / agitation.
Pain	**1st line:** Morphine Sulfate 2.5mg-5mg S/C PRN hourly max. 30mg/24h if opioid-naive & creatinine clearance above 30mL/min	1. Rule out reversible causes such as rigidity, urinary retention and constipation. 2. Best to maintain previous doses of dopaminergic medication rather than acutely increase. 3. Once PD medications are optimized, other analgesics can be used. 4. See general Palliative Care guidance.
Nausea and Vomiting	**1st line:** Domperidone PO 10mg TDS **2nd line:** Cyclizine S/C 25mg TDS max 150mg/24h	1. Rule out reversible causes including medications and constipation. 2. Local guidance may vary – ondansetron can be used but is constipating and is contraindicated with Apomorphine. 3. Levomepromazine is usually contraindicated but *may* be used in extreme cases – must discuss with PD or Palliative specialist.
Secretions	**1st line:** Hyoscine Butylbromide 20mg S/C PRN 4 hourly max 120mg/24h **2nd line:** Glycopyrronium 200micrograms S/C PRN 4 hourly max. 2.4mg/24h	1. May be more distressing for those at bedside than patient. 2. Changing the patient's position, e.g. 'high side lying' may help. 3. Low threshold for starting a CSCI early - typical starting dose of hyoscine butylbromide is 60mg/24h. 4. Hyoscine butylbromide and Cyclizine should not be mixed in the same syringe driver- if required, use glycopyrronium –typical starting dose is 600 micrograms/24h.

Symptom	1st / 2nd line medications	Notes
Terminal Agitation and Delirium	**1st line:** Midazolam 2.5mg – 5mg S/C PRN hourly max. 30mg/24h	1. Address reversible causes such as constipation, urinary retention or pain; 2. If 3 or more doses are used in a 24 hour period consider starting a CSCI. 3. Consult palliative care guidelines for dose adjustment in renal impairment: 4. Avoid contraindicated drugs (see Appendix 4). 5. A reduction in dopaminergic therapies *might* be needed but there will be a 'trade-off' between increased rigidity and relief of an agitated delirium – should discuss with a PD specialist. 6. See also Appendix 5: Rationalising PD Medications at the End of Life.
Breathlessness	**1st line:** Morphine Sulfate 2.5mg–5mg S/C PRN hourly max. 30mg/24h If creatinine clearance above 30mL/min	1. Can be managed as in most other palliative situations. See general guidance on breathlessness. 2. If 3 or more doses are used in a 24hr period, consider starting a continuous subcutaneous infusion see: Syringe Driver Pump – West Midlands Palliative Care.

See Parkinson's References online 17,18