Symptom Control and Anticipatory Prescribing (last days of life)

Pain

- Patient not currently taking opioids: prescribe 2.5 - 5mg MORPHINE SC PRN 1-hourly. If the oral route is available also prescribe MORPHINE 5mg PO PRN.
- If 2 or more SC doses are required in 24-hours start MORPHINE by continuous subcutaneous infusion*, consider dose around 2/3 of total prn doses required. Increase SC PRN dose to 1/6 of 24hr syringe driver dose.
- If the patient is already taking oral MORPHINE, calculate the subcutaneous equivalent daily dose (total oral daily dose divided by 2), and prescribe 1/6 of this as the PRN dose.
- Review the continuous subcutaneous infusion dose daily and consider increasing to include any additional PRN doses given.
- If the patient has a fentanyl patch leave this in place and prescribe the appropriate SC PRN dose of morphine

Dosing example:
Total daily dose MORPHINE PO is 60mg. The equivalent 24hr subcutaneous dose is 30mg. The PRN dose is 1/6 of this ie 5mg.

NB The dose calculation is different for other opioids.
Eg Oral Morphine 60mg = Oral oxycodone 30mg = subcutaneous oxycodone 15mg.
For PRN dose calculation or opioid dose conversion see the Palliative Network Guidelines: PANG (http://book.pallcare.info) or the Palliative Care Formulary

Nausea and Vomiting

- Continue any orally effective agents by subcutaneous infusion*, for example: CYCLIZINE 50mg TDS PO = CYCLIZINE 150mg SC /24 hour
  METOCLOPRAMIDE 10 mg TDS PO = METOCLOPRAMIDE 30mg SC /24 hours
- If no prescription exists, or in addition to above, prescribe LEVOMEPROMAZINE 6.25 mg SC PRN 1-hourly
- If more than 2 PRN doses are required in 24 hours, add to the continuous subcutaneous infusion: LEVOMEPROMAZINE 12.5mg /24 hours and continue PRN prescription.
- If more than 2 PRN doses in the subsequent 24 hours, increase continuous subcutaneous infusion to LEVOMEPROMAZINE 25mg /24 hours.

Agitation and delirium

- Consider treatable causes eg pain; urinary retention; faecal impaction.
- Prescribe MIDAZOLAM 2.5 - 5mg SC PRN 1 HOURLY or LEVOMEPROMAZINE 6.25-12.5mg SC PRN 1 HOURLY
- If more than 2 PRN doses are required in 24 hours, add MIDAZOLAM 10mg /24 hours or LEVOMEPROMAZINE 12.5-25mg / 24 hours to the continuous subcutaneous infusion.
- and ensure both MIDAZOLAM 2.5-5mg SC PRN and LEVOMEPROMAZINE 6.25-12.5mg SC PRN continue.
- Delirium is best treated with a combination of benzodiazepine and antipsychotic – with doses optimized for the individual.
Respiratory Tract Secretions

- Explain to the patient’s relatives that noisy breathing is due to the inability of the patient to clear secretions, and that they are not choking. Advise to reposition the patient.
- Prescribe HYOSCINE BUTYLBROMIDE 20mg SC PRN 1-hourly
- If any doses are required prescribe 60mg /24 hours by subcutaneous infusion and continue PRN.
- If symptoms persist beyond 24 hours, increase the dose in the subcutaneous infusion to 120mg /24 hours.

Dyspnoea

- Consider cause and treat appropriately (e.g., hypoxia, pulmonary oedema, bronchospasm).
- Use non-drug measures such as explanation, reassurance, repositioning, fan, relaxation.
- If non-pharmacological treatments are ineffective, use MORPHINE 2.5mg or MIDAZOLAM 2.5mg SC PRN.
- If more than 2 doses in last 24 hours, prescribe a continuous subcutaneous infusion over 24 hours, and continue PRN prescription. NB: See above morphine/midazolam dosing guidance under pain/agitation

Concentrations and ampoule sizes of the medicines included above

<table>
<thead>
<tr>
<th>Medicine</th>
<th>Concentration</th>
<th>Vial/Amp Size</th>
<th>Pack Size</th>
<th>Cost (Aug 15)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morphine (CD)</td>
<td>10mg/1ml</td>
<td>1ml</td>
<td>10</td>
<td>£9.36</td>
</tr>
<tr>
<td></td>
<td>15mg/1ml</td>
<td>1ml</td>
<td>10</td>
<td>£8.95</td>
</tr>
<tr>
<td></td>
<td>30mg/1ml</td>
<td>1ml</td>
<td>10</td>
<td>£8.84</td>
</tr>
<tr>
<td></td>
<td>60mg/2ml</td>
<td>2ml</td>
<td>5</td>
<td>£10.07</td>
</tr>
<tr>
<td>Oxycodone (CD)</td>
<td>10mg/1ml</td>
<td>1ml</td>
<td>5</td>
<td>£8.00</td>
</tr>
<tr>
<td></td>
<td>20mg/2ml</td>
<td>2ml</td>
<td>5</td>
<td>£16.00</td>
</tr>
<tr>
<td></td>
<td>50mg/1ml**</td>
<td>1ml</td>
<td>5</td>
<td>£70.10</td>
</tr>
<tr>
<td>Cyclizine</td>
<td>50mg/1ml</td>
<td>1ml</td>
<td>5</td>
<td>£8.65</td>
</tr>
<tr>
<td>Levomepromazine</td>
<td>25mg/1ml</td>
<td>1ml</td>
<td>10</td>
<td>£20.13</td>
</tr>
<tr>
<td>Metoclopramide</td>
<td>10mg/2ml</td>
<td>2ml</td>
<td>10</td>
<td>£3.23</td>
</tr>
<tr>
<td>Hyoscine Butylbromide</td>
<td>20mg/1ml</td>
<td>1ml</td>
<td>10</td>
<td>£2.92</td>
</tr>
<tr>
<td>Midazolam (CD)</td>
<td>10mg/2ml</td>
<td>2ml</td>
<td>10</td>
<td>£7.11</td>
</tr>
</tbody>
</table>

**only to be used when the lower concentration of oxycodone will not fit in the syringe driver.

Specific Community Pharmacies participate in the Palliative Care Drugs Stockist Scheme. Details of participating pharmacies should be available locally.

*Continuous subcutaneous syringe infusions are administered using T34 syringe pumps. For further guidance see local syringe driver policy. Ensure that patients requiring syringe drivers are also prescribed water for injections. Ensure practice is in line with your local Anticipatory Medications Policy.

IF 2 CONSECUTIVE DOSES OF MEDICATION AN HOUR APART HAVE NOT BEEN EFFECTIVE TO CONTROL A SYMPTOM PLEASE SEEK MEDICAL ADVICE.

PCF5 (Palliative Care Formulary version 5) [www.palliativedrugs.com](http://www.palliativedrugs.com)
If symptoms are difficult to control, for education and advice contact your Specialist Palliative Care Team
Anticipatory Medications in Renal Impairment
Stage 4-5 Chronic Kidney Disease (eGFR<30ml/min)

Pain
ALFENTANIL and FENTANYL are the opioids of choice (less renal excretion of parent drug and inactive metabolites) and may be recommended by specialists for patients with severe renal impairment. Subsequently they may be prescribed by Primary Care Prescribers (classified Amber 2).

The information included here is intended as an example to aid prescribers. If in doubt contact your Specialist Palliative Care team or Medicines Management support.

- Patient not taking a regular opioid: Prescribe ALFENTANIL 100 micrograms SC OR FENTANYL 25 micrograms SC PRN 1- hourly
- If any PRN doses required consider continuous subcutaneous infusion* with eg ALFENTANIL 500 micrograms/24-hours OR eg FENTANYL 100 micrograms/24-hours. (1mg ALFENTANIL SC = 30mg oral morphine) (1mg FENTANYL SC = 150mg oral morphine)
- If patient has a Fentanyl patch – continue patch and use ALFENTANIL or FENTANYL SC prn in addition.
- If patient is taking other regular opioids: Convert to continuous subcutaneous infusion* of ALFENTANIL/FENTANYL in syringe driver with ALFENTANIL/FENTANYL SC prn at 1/6 to 1/10 of the total 24 hour continuous subcutaneous infusion dose (seek specialist advice for dose guidance and conversion)

Morphine and Oxycodone can be used with caution if the patient is not opioid toxic. Start with small doses eg 2.5mg SC 4 hourly prn and titrate carefully, monitoring for toxicity.

If pain is difficult to control or for dose conversion advice please seek specialist advice
Opioid dose conversion guidance is available - Palliative Network Guidelines: PANG
http://book.pallcare.info>Physical Symptoms and signs>pain> Opioid Potency Ratios

Myoclonus or muscle stiffness/spasm
- MIDAZOLAM 5-10 mg / 24 hours by continuous subcutaneous infusion*, titrate up to 20mg if required.

Nausea and Vomiting
Nausea is common due to uraemia and comorbidity
- If already controlled with an oral anti-emetic, continue it as a continuous subcutaneous infusion* or use a long acting anti-emetic:
  ◊ LEVOMEPROMAZINE 2.5 mg SC 12-hourly
  ◊ HALOPERIDOL 0.5-1 mg SC 12-hourly

Agitation and delirium
- Prescribe MIDAZOLAM 2 mg SC PRN 1 hourly or LEVOMEPROMAZINE 2.5 – 5 mg SC PRN 1 hourly
- If PRN medication required consider subcutaneous infusion* with MIDAZOLAM 5-10 mg over 24 hours

Delirium is best treated with a combination of benzodiazepine and antipsychotic – with doses optimized for the individual. If agitation or delirium worsening seek advice.
Respiratory Tract Secretions

Explain to the patient’s relatives that noisy breathing is due to the inability of the patient to clear secretions, and that they are not choking. Consider repositioning the patient.

- Prescribe HYOSCINE BUTYLBROMIDE 20mg SC PRN 1 hourly
- If any doses are required prescribe 60mg /24 hours by subcutaneous infusion* and continue PRN.
- If symptoms persist beyond 24 hours, increase the dose to 120mg /24 hours.

Dyspnoea

Consider cause and treat appropriately (eg hypoxia, pulmonary oedema, bronchospasm).

Use non-drug measures such as explanation, reassurance, repositioning, fan, relaxation.

- Continue any oral diuretic if able to swallow. Avoid fluid overload.
- Use MIDAZOLAM 2 mg SC PRN or ALFENTANIL/FENTANYL PRN as above
- If more than 2 doses in last 24 hours, prescribe a continuous subcutaneous infusion* over 24 hours, and continue PRN prescription.

*Continuous subcutaneous syringe infusions are administered using T34 syringe pumps. For further guidance see local syringe driver policy. Ensure that patients requiring syringe drivers are also prescribed water for injections. Ensure practice is in line with your local Anticipatory Medications Policy.

Concentrations and ampoule sizes of the medicines included above

<table>
<thead>
<tr>
<th>Medicine</th>
<th>Concentration</th>
<th>Vial/ Amp Size</th>
<th>Pack Size</th>
<th>Cost (Aug 15)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alfentanil (CD)</td>
<td>500mcg/1ml**</td>
<td>2ml</td>
<td>10</td>
<td>£6.34</td>
</tr>
<tr>
<td>Fentanyl (CD)</td>
<td>50mcg/1ml</td>
<td>2ml</td>
<td>10</td>
<td>£4.50</td>
</tr>
<tr>
<td>Haloperidol</td>
<td>5mg/1ml</td>
<td>1ml</td>
<td>10</td>
<td>£8.65</td>
</tr>
<tr>
<td>Hyoscine Butylbromide</td>
<td>20mg/1ml</td>
<td>1ml</td>
<td>10</td>
<td>£2.92</td>
</tr>
<tr>
<td>Levomepromazine</td>
<td>25mg/1ml</td>
<td>1ml</td>
<td>10</td>
<td>£20.13</td>
</tr>
<tr>
<td>Midazolam (CD)</td>
<td>10mg/2ml</td>
<td>2ml</td>
<td>10</td>
<td>£7.11</td>
</tr>
</tbody>
</table>

Contacts:

John Eastwood Hospice 01623 622626
Hayward House 0115 9627619
Medicines Information at SFH 01623 672213
Medicines Information at NUH 0115 9709200
Bassetlaw Hospice 01777 863270

References:

http://www.palliativecareguidelines.scot.nhs.uk
http://www.renaldrugdatabase.com/