**Drug sensitivities/allergies:**

**Current/Ongoing/Usual Opioids**

Record here current prescription of opioid analgesia (include oral, buccal, transdermal). If the patient is terminally ill and already on a transdermal patch continue this and calculate subcutaneous (s/c) opioid for top-up analgesia only.

<table>
<thead>
<tr>
<th>Name of drug</th>
<th>Form</th>
<th>Dose</th>
<th>Frequency</th>
<th>Total 24 hour dose</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**A guide to equivalent doses for opioid drugs**

NB - This is to be used as a guide rather than a set of definitive equivalences. Most data on doses is based on single dose studies so is not necessarily applicable in chronic use, also individual patients may metabolise different drugs at varying rates. The advice is always to calculate doses using morphine as standard and to adjust them to suit the patient and the situation. Some of these doses have by necessity been rounded up or down to fit in with the preparations available.

<table>
<thead>
<tr>
<th>Oral Morphine</th>
<th>Subcutaneous Morphine</th>
<th>Subcutaneous Diamorphine</th>
<th>Oral Oxycodone</th>
<th>Subcutaneous Oxycodone</th>
<th>Fentanyl Transdermal</th>
<th>Subcutaneous Alfentanil</th>
</tr>
</thead>
<tbody>
<tr>
<td>4hr dose (mg)</td>
<td>12hr SR dose (mg)</td>
<td>24hr total dose (mg)</td>
<td>4hr dose (mg)</td>
<td>24hr total dose (mg)</td>
<td>Patch strength (micrograms)</td>
<td>4hr dose (mg)</td>
</tr>
<tr>
<td>5</td>
<td>15 30 2.5 15 1.25 10</td>
<td>2.5 7.5 15 1.25 7.5</td>
<td>12mcg 0.125 1</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>30 60 5 30 2.5 - 5 20</td>
<td>5 15 30 2.5 15 25 25</td>
<td>25mcg 0.25 2</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>45 90 7.5 45 5 30</td>
<td>7.5 25 50 3.75 25</td>
<td>25mcg 0.5 3</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>60 120 10 60 7.5 40</td>
<td>10 30 60 5 30 7.5 45</td>
<td>37mcg 0.75 4</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>90 180 15 90 10 60</td>
<td>15 45 90 7.5 45 50mcg 1</td>
<td>1 6</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>40</td>
<td>120 240 20 120 12.5 80</td>
<td>20 60 120 10 60 75mcg 1</td>
<td>1.25 8</td>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>50</td>
<td>150 300 25 150 15 100</td>
<td>25 75 150 12.5 75</td>
<td>75mcg 1.5 10</td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>60</td>
<td>180 360 30 180 20 120</td>
<td>30 90 180 15 90 100mcg 2</td>
<td>12</td>
<td>12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>70</td>
<td>210 420 35 210 25 140</td>
<td>35 105 210 17.5 100</td>
<td>125mcg 2.5 14</td>
<td>14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>80</td>
<td>240 480 40 240 27.5 160</td>
<td>40 120 240 20 120</td>
<td>125mcg 2.5 16</td>
<td>16</td>
<td></td>
<td></td>
</tr>
<tr>
<td>90</td>
<td>270 540 45 270 30 180</td>
<td>45 135 270 22.5 135</td>
<td>150mcg 3 18</td>
<td>18</td>
<td></td>
<td></td>
</tr>
<tr>
<td>100</td>
<td>300 600 50 300 35 200</td>
<td>50 150 300 25 150</td>
<td>150mcg 3.5 20</td>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>110</td>
<td>330 660 55 330 37.5 220</td>
<td>55 165 330 27.5 165</td>
<td>175mcg 3.75 22</td>
<td>22</td>
<td></td>
<td></td>
</tr>
<tr>
<td>120</td>
<td>360 720 60 360 40 240</td>
<td>60 180 360 30 180</td>
<td>200mcg 4 24</td>
<td>24</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Drug Buprenorphine Transdermal**

<table>
<thead>
<tr>
<th>Drug Dose (micrograms/hour)</th>
<th>Approximate Codeine Equivalence</th>
<th>Approximate Oral Morphine Equivalence</th>
</tr>
</thead>
<tbody>
<tr>
<td>BuTrans 5</td>
<td>60mg/24 hours</td>
<td>10mg/24 hours</td>
</tr>
<tr>
<td>BuTrans 10</td>
<td>120mg/24 hours</td>
<td>20mg/24 hours</td>
</tr>
<tr>
<td>BuTrans 20</td>
<td>240mg/24 hours</td>
<td>40mg/24 hours</td>
</tr>
</tbody>
</table>

Reproduced with kind permission of Margaret Gibbs St Christopher's Hospice 2nd edition 2006 amended to reflect current local practice, updated using eBNF www.bnf.org
Prescribing information

- When first commencing a syringe driver it can take 4-6 hours for the medication to take effect. It is therefore important to prescribe s/c stat doses of all medicines required to manage pain relief and other symptoms. A separate Saf-T-Intima could be be inserted for this purpose.

- Ensure where a dose increase is intended, that the calculated dose is safe for the patient. This should normally not be more than 50% higher than the previous dose. (NPSA/2008/RRR05- Reducing Dosing errors with Opioid Medicines)

- If patient is entering the terminal phase keep transdermal opioid patches in situ, and continue to change patch as usual i.e every 72 hours (book.pallcare.info/index.php). Give additional s/c opiate when necessary (prn) for breakthrough pain. If more than 2 doses are needed in 24 hours then give additional opioid by syringe driver, starting with dose equal to sum of prn doses in past 24 hours.

- Naloxone - The recommended dose of Naloxone IV to reverse opioid induced respiratory depression in patients receiving end of life care is Naloxone IV 100-200micrograms (1.5micrograms -3micrograms/kg). If response is inadequate give subsequent dose of 100micrograms every two minutes. NHS England Patient Safety Alert (NHS/PSA/W/2014/016R).

- Intraspinal route - Occasionally syringe drivers are used to deliver medicines via the intraspinal route. When this occurs the management of the syringe driver is different and advice regarding this should be obtained from the hospice. Prior to seeking advice no changes should be made.

Syringe driver information – McKinley T34 in the community

- If the syringe driver does not work give STAT doses (see guidance on conversion chart) and record on syringe driver record sheet doses and stock used. Leave a message for the District Nursing team regarding this.

- If the alarm is sounding, this can be stopped by removing the battery (the locked box does not need to be removed to do this). This will stop the infusion so stat doses may be required. Contact the District Nursing Team and ask them to recommence the machine and troubleshoot.

- Only reload the syringe driver if trained and competent with use of the McKinley T34 syringe driver.

Guidance for anticipatory prescribing and symptom control at the end-of-life

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Drug</th>
<th>PRN subcutaneous dose for anticipatory symptoms, as needed</th>
<th>Starting dose range over 24 hours in syringe driver (subcutaneous), if needed</th>
<th>Vial Strengths</th>
<th>Maximum dose over 24 hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Pain/Breathlessness</td>
<td>Diamorphine</td>
<td>2.5mg 1 hourly if opioid naïve or 1/6th of 24 hr subcutaneous opioid dose</td>
<td>7.5mg-15mg (if not already taking opioids)</td>
<td>5,10,30 or 100mg amp's</td>
<td>No upper limit</td>
</tr>
<tr>
<td></td>
<td>Morphine</td>
<td>2.5mg-5mg 1 hourly prn if opioid naïve or 1/6th of 24 hr subcutaneous opioid dose</td>
<td>10mg-20mg (if not already taking opioids)</td>
<td>10mg/ml</td>
<td>No upper limit</td>
</tr>
<tr>
<td>2. Nausea/vomiting</td>
<td>Haloperidol and/or</td>
<td>1.5mg-3mg bd</td>
<td>3mg-5mg</td>
<td>5mg/ml</td>
<td>10mg</td>
</tr>
<tr>
<td></td>
<td>Cyclizine*</td>
<td>50mg tds (if not on regular cyclizine)</td>
<td>150mg</td>
<td>50mg/ml</td>
<td>150mg</td>
</tr>
<tr>
<td></td>
<td>Metoclopramide</td>
<td>10mg tds</td>
<td>30mg-60mg</td>
<td>10mg/2ml</td>
<td>80mg</td>
</tr>
<tr>
<td>Second Line</td>
<td>Levomepromazine</td>
<td>6.25mg qds</td>
<td>6.25mg-12.5mg</td>
<td>25mg/ml</td>
<td>25mg</td>
</tr>
<tr>
<td>3. Agitation</td>
<td>Midazolam</td>
<td>2.5mg-5mg initially 1 hourly prn</td>
<td>10mg-30mg</td>
<td>10mg/2ml</td>
<td>60mg</td>
</tr>
<tr>
<td></td>
<td>-anxiety (1st line)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>+hallucinations or confusion</td>
<td>Haloperidol</td>
<td>1.5mg-3mg bd</td>
<td>3mg-5mg</td>
<td>5mg/ml</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Levomepromazine</td>
<td>6.25mg-12.5mg (max qds)</td>
<td>6.25mg-12.5mg</td>
<td>25mg/ml</td>
</tr>
<tr>
<td>4. Noisy breathing due to respiratory tract secretions</td>
<td>Glycopyrronium Bromide</td>
<td>200 microgram 4 hourly</td>
<td>600 microgram -1200 microgram</td>
<td>600 microgram /3ml</td>
<td>1200 microgram</td>
</tr>
<tr>
<td></td>
<td>Hyoscine Butylbromide*</td>
<td>20mg 4 hourly</td>
<td>60mg-100mg</td>
<td>20mg/ml</td>
<td>120mg</td>
</tr>
<tr>
<td></td>
<td>Hyoscine Hydrobromide</td>
<td>400 microgram 4 hourly</td>
<td>1.2mg-2.4mg</td>
<td>400 microgram /ml</td>
<td>2.4mg</td>
</tr>
</tbody>
</table>

The guidance above are well accepted drugs and doses used at the end-of-life. Call the Palliative Care Advice Line if advice is needed at any time. Conversion of oral opioids to parenteral opioids is overleaf.* Cyclizine is not compatible with hyoscine butylbromide or oxycodone in a syringe driver.

Further advice is available from:
Palliative Care Advice Line: Cornwall Hospice Care 01736 757707 - Advice is available 24 hours a day, 7 days a week to any Health Care Professional
Community Specialist Palliative Care Team 01208 251300
24 hour on-call pharmacist at RCHT 01872 252000
St Luke’s Hospice 01752 401172

Cornwall Joint Formulary – www.eclipsesolutions.org/cornwall
Prescription sheet for Subcutaneous Syringe Driver and Injectable Drugs

Patient details
Name: ..............................................................................................................................
Address: ..........................................................................................................................
Date of birth: ....................................................................................................................
NHS number: ....................................................................................................................

Drug sensitivities/allergies: ..................................................................................................

Prescription sheet to be reviewed monthly
Prescription sheet start date: ____________________________

As required/PRN/anticipatory prescribing medications

<table>
<thead>
<tr>
<th>Date &amp; Time</th>
<th>Name of drug</th>
<th>Dose</th>
<th>Route</th>
<th>Frequency</th>
<th>Total STAT doses in 24hrs</th>
<th>Doctor's signature</th>
<th>Pharmacist</th>
</tr>
</thead>
</table>

As required medications (for Opioid this is generally a sixth of the 24 hour dose)

Syringe Driver Medications over 24 hours
Drugs that may be added to syringe driver depending on symptoms. It is essential to make sure the drugs are compatible or it may be necessary to run two syringe drivers.
(www.book.pallcare.info/index.php - advice on compatibility)

Date & time | Dose range | Print name & signature
|-------------|------------|-------------------|

DILUENT OF CHOICE: ____________________________
To a sufficient quantity

S/c ______________________ injection ____ mg in 24 hours
via syringe driver increasing by ____ mg steps if necessary
to a maximum of ____ mg in 24 hours
Reason for use: ________________________________

Name: 
Signature: 
Designation: 

Name: 
Signature: 
Designation: 

Pharmacist
Drugs which may be added to syringe driver depending on symptoms

<table>
<thead>
<tr>
<th>Date &amp; time</th>
<th>Dose range</th>
<th>Print name &amp; signature</th>
</tr>
</thead>
</table>
|             | S/c _________ injection _____ mg in 24 hours via syringe driver increasing by _____ mg steps if necessary to a maximum of _____ mg in 24 hours Reason for use: ______________________________ | Name: 
Signature: 
Designation: |
|             | S/c _________ injection _____ mg in 24 hours via syringe driver increasing by _____ mg steps if necessary to a maximum of _____ mg in 24 hours Reason for use: ______________________________ | Name: 
Signature: 
Designation: |
|             | S/c _________ injection _____ mg in 24 hours via syringe driver increasing by _____ mg steps if necessary to a maximum of _____ mg in 24 hours Reason for use: ______________________________ | Name: 
Signature: 
Designation: |
|             | S/c _________ injection _____ mg in 24 hours via syringe driver increasing by _____ mg steps if necessary to a maximum of _____ mg in 24 hours Reason for use: ______________________________ | Name: 
Signature: 
Designation: |
|             | S/c _________ injection _____ mg in 24 hours via syringe driver increasing by _____ mg steps if necessary to a maximum of _____ mg in 24 hours Reason for use: ______________________________ | Name: 
Signature: 
Designation: |

Patient details
Name: ___________________________________________________________
Date of birth: ____________________________________________________
NHS number: _____________________________________________________

Drugs which may be added to syringe driver depending on symptoms

<table>
<thead>
<tr>
<th>Date &amp; time</th>
<th>Dose range</th>
<th>Print name &amp; signature</th>
</tr>
</thead>
</table>
|             | S/c _________ injection _____ mg in 24 hours via syringe driver increasing by _____ mg steps if necessary to a maximum of _____ mg in 24 hours Reason for use: ______________________________ | Name: 
Signature: 
Designation: |
|             | S/c _________ injection _____ mg in 24 hours via syringe driver increasing by _____ mg steps if necessary to a maximum of _____ mg in 24 hours Reason for use: ______________________________ | Name: 
Signature: 
Designation: |
|             | S/c _________ injection _____ mg in 24 hours via syringe driver increasing by _____ mg steps if necessary to a maximum of _____ mg in 24 hours Reason for use: ______________________________ | Name: 
Signature: 
Designation: |
|             | S/c _________ injection _____ mg in 24 hours via syringe driver increasing by _____ mg steps if necessary to a maximum of _____ mg in 24 hours Reason for use: ______________________________ | Name: 
Signature: 
Designation: |
|             | S/c _________ injection _____ mg in 24 hours via syringe driver increasing by _____ mg steps if necessary to a maximum of _____ mg in 24 hours Reason for use: ______________________________ | Name: 
Signature: 
Designation: |

Patient details
Name: ___________________________________________________________
Date of birth: ____________________________________________________
NHS number: _____________________________________________________

Drugs which may be added to syringe driver depending on symptoms

<table>
<thead>
<tr>
<th>Date &amp; time</th>
<th>Dose range</th>
<th>Print name &amp; signature</th>
</tr>
</thead>
</table>
|             | S/c _________ injection _____ mg in 24 hours via syringe driver increasing by _____ mg steps if necessary to a maximum of _____ mg in 24 hours Reason for use: ______________________________ | Name: 
Signature: 
Designation: |
|             | S/c _________ injection _____ mg in 24 hours via syringe driver increasing by _____ mg steps if necessary to a maximum of _____ mg in 24 hours Reason for use: ______________________________ | Name: 
Signature: 
Designation: |
|             | S/c _________ injection _____ mg in 24 hours via syringe driver increasing by _____ mg steps if necessary to a maximum of _____ mg in 24 hours Reason for use: ______________________________ | Name: 
Signature: 
Designation: |
|             | S/c _________ injection _____ mg in 24 hours via syringe driver increasing by _____ mg steps if necessary to a maximum of _____ mg in 24 hours Reason for use: ______________________________ | Name: 
Signature: 
Designation: |
|             | S/c _________ injection _____ mg in 24 hours via syringe driver increasing by _____ mg steps if necessary to a maximum of _____ mg in 24 hours Reason for use: ______________________________ | Name: 
Signature: 
Designation: |

Patient details
Name: ___________________________________________________________
Date of birth: ____________________________________________________
NHS number: _____________________________________________________

Drugs which may be added to syringe driver depending on symptoms

<table>
<thead>
<tr>
<th>Date &amp; time</th>
<th>Dose range</th>
<th>Print name &amp; signature</th>
</tr>
</thead>
</table>
|             | S/c _________ injection _____ mg in 24 hours via syringe driver increasing by _____ mg steps if necessary to a maximum of _____ mg in 24 hours Reason for use: ______________________________ | Name: 
Signature: 
Designation: |
|             | S/c _________ injection _____ mg in 24 hours via syringe driver increasing by _____ mg steps if necessary to a maximum of _____ mg in 24 hours Reason for use: ______________________________ | Name: 
Signature: 
Designation: |
|             | S/c _________ injection _____ mg in 24 hours via syringe driver increasing by _____ mg steps if necessary to a maximum of _____ mg in 24 hours Reason for use: ______________________________ | Name: 
Signature: 
Designation: |
|             | S/c _________ injection _____ mg in 24 hours via syringe driver increasing by _____ mg steps if necessary to a maximum of _____ mg in 24 hours Reason for use: ______________________________ | Name: 
Signature: 
Designation: |
|             | S/c _________ injection _____ mg in 24 hours via syringe driver increasing by _____ mg steps if necessary to a maximum of _____ mg in 24 hours Reason for use: ______________________________ | Name: 
Signature: 
Designation: |