ARRANGEMENTS FOR THE SUPPLY OF PALLIATIVE CARE SYRINGES AND MEDICINES FOR COMMUNITY PATIENTS

Update February 2020
This policy only applies to patients requiring a syringe driver for end of life symptom management, who are resident in Nursing Homes within the old Southern Derbyshire CCG boundary, that are not currently part of the early adopter scheme for the new process

The benefits of prefilled syringes for palliative care from the hospital pharmacy service
In situations where oral administration of drugs is not possible, the use of a syringe driver means that patients can receive a 24 hour infusion of medication, instead of regular series of bolus injections which are inconvenient and may be painful and upsetting. There are a number of patient safety and operational issues that may arise when palliative care infusions are prepared by a primary care practitioner.

Drug calculations, preparation and administration
Palliative care syringes have to be prepared from multiple ampoules and this process can be complex. In a hospital pharmacy the procedures involving worksheet preparation, dosage calculations, collection of ingredients, preparation and manufacturing are checked at all stages. The product is finally released by a pharmacist. The safeguards that are built into the system are there to prevent errors.

Lone community practitioners in the patient’s home have to perform these procedures without the benefit of having a second practitioner to check, and this increases the potential for medication error.

Drug-drug compatibility
Combinations of diamorphine, antiemetics and diluents in various doses, are not always compatible even though they may appear to be by visual examination. Incompatibility can lead to reduced efficacy and/or precipitation of the active ingredients, which may not be apparent to the practitioner when preparing the infusion solution.

Non-specialist practitioners are unlikely to be aware of the physico-chemical compatibility of the infusions that they will be preparing in the community. All the combinations we supply have the necessary stability data to justify the shelf-life.
Microbial contamination
Preparing infusions in the patient's home has a risk of introducing microbial contamination into the infusion that then remains in a warm environment for a further 24 hours during administration. Following incidents where infusion solutions have been contaminated during preparation, the Department of Health conducted a survey of aseptic preparation in NHS hospitals (1997). The importance of preparing infusion solutions in aseptic clean rooms with fully validated procedures was emphasised in the survey results.

Reducing the risks associated with injectable medicines
The National Patient Safety Agency (NPSA) alert 20 (promoting safer use of injectable medicines) recommends a number of actions to improve patient safety when high risk medicines are used. The Royal Derby Hospital Pharmacy department can aid front line staff to ensure that these recommended actions are achieved.

Drug supplies from hospitals
The analgesic and anti-emetic requirements of individual patients may change rapidly. Parenteral medicines that are routinely stocked in hospital pharmacies to meet these needs include:

- Alfentanil ampoules 1mg, 5mg (schedule 2 CD)
- Diamorphine ampoules 5 mg, 10 mg, 30 mg, 100 mg and 500 mg (schedule 2 CD)
- Morphine sulphate 10 mg (schedule 2 CD)
- Cyclizine 50 mg
- Haloperidol 5 mg
- Hyoscine hydrobromide 400 micrograms and 600 micrograms
- Hyoscine butyl bromide 20 mg
- Metoclopramide 10 mg
- Levomepromazine 25 mg
- Midazolam 10 mg (schedule 3 CD)
- Octreotide 50 microgram, 100 micrograms, 500micrograms
- Oxycodone 10mg and 50 mg (schedule 2 CD)
- Ketorolac 30 mg
- Water for injection 10 ml, 20ml

Not all community pharmacies will routinely hold supplies of the parenteral products listed above.

Arrangements for pre-filled syringes
On receiving a verbal request for a palliative care syringe the Central Aseptic Services Unit (CASU) will initiate the process of supplying medication for the patient. A copy of the prescription will be requested. This can either be a scanned document or a photograph of the prescription, which should then be emailed to the aseptic unit. If a copy
of the prescription has been received, the CASU can immediately start to manufacture the medication, which will help to ensure that the patient’s medication can arrive in a timely manner. A taxi will be ordered to collect the original prescription form.

On receiving the FP10 the manufactured product is checked and, providing everything is in order, the medication is then taxied out to the agreed address.

**The status of FP10 prescriptions dispensed by the Aseptic Dispensing Unit**

The CASU, is part of a Registered Pharmacy, and holds an MHRA Manufacturer specials license (MS). The unit is legally authorised to dispense prescriptions from registered medical practitioners, but not under the pharmacy contractor arrangements.

The CASU is able to receive payment for dispensed prescriptions for palliative care products under a service level agreement drawn up between Derby Hospitals NHS Foundation Trust and the Southern Derbyshire Clinical Commissioning Group. For convenience the FP10 prescription form is used by general practitioners to prescribe medicines from the CASU.

**Additional information and products**

**Additional products**

In the eventuality of a general practitioner requiring supplies of Controlled Drug ampoules, analgesics and supplementary medicines for the treatment of their patient and being unable to obtain the timely supply of these medicines via community pharmacies in the normal way, the Central Aseptic Services Unit can be contacted and will arrange the supply of these medicines in addition to the pre-filled syringe or as a separate supply on receipt of an FP10 prescription.

**Contact details for Royal Derby Hospital Pharmacy**

Working hours – Central Aseptic Services Unit (CASU) 09:00 to 17:00

- Telephone: **01332 785 344**
- Email: [dhft.pharmacyaseptics2@nhs.net](mailto:dhft.pharmacyaseptics2@nhs.net)

Please telephone CASU before emailing any details as the email address is not constantly monitored.

Out of Hours – Duty Pharmacist 17:00 – 09:00

- Telephone: **01332 340 131** and ask for the duty pharmacist

Reviewed in January 2017 by Peter Mason Aseptic Specialist Pharmacist

Next Review due January 2020 (Review date extended to May 2020)
The method to obtain palliative care syringes and medicines from the CASU, Pharmacy Department, DHFT (see explanatory notes (a) to (e) below)

GP determines the need for a palliative care syringe

Dr. DN or practice staff contacts:
The Central Aseptic Services Unit (CASU) on 01332 785 344 (09:00 – 17:00).
Outside of this time ring 01332 340 131 (17:00 – 09:00) and ask for the duty pharmacist (a).

Contacts the District Nurse (DN) to inform them of the new treatment and to set-up and monitor the treatment each day.

Send a scanned copy of the prescription or photograph to: dhft.pharmacyaseptics2@nhs.net (b).

The CASU/Duty Pharmacist manufactures one or more pre-filled syringes in accordance with the telephone order and electronic copy of the prescription, and dispatches a taxi to collect the prescription (c).

The CASU/Duty Pharmacist dispatches the pre-filled syringes to the agreed address by taxi within the target time of 4 hours of the initial request (d).

The pre-filled syringe(s) are delivered to the agreed address and signed for by a carer or District Nurse.

Supplies of the pre-filled syringe continue to be made until the prescription is completed or CASU informed it is no longer required (e).

The District Nurse sets up the S/C syringe driver according to the protocol.

The GP re-assesses the patient and initiates a new prescription for a palliative care syringe and the cycle begins again.
1. Explanatory Notes:

(a) Please be prepared to supply the following information:
- Patients name and address (directions if it is difficult to find)
- Prescriber’s name, surgery name and address
- Previous opioid use (if applicable) # Opioid naïve patients should not normally be prescribed doses in excess of 10mg/24 hours (max) S/C diamorphine.
- What medication is required in the syringe?
- Where to collect the prescription from.
- Day and time the syringe is required (e.g. today, @ 13:00, etc).

(b) Please scan or take a photograph of the prescription using a scanner, phone or tablet and email the electronic copy of the prescription to: dhft.pharmacyaseptics2@nhs.net
- Please put “Pre-filled syringe order” as the subject line.
- Feel free to add any other comments which may be useful for delivery of the medication.

(c) A code will be given by the CASU or Duty Pharmacist to the GP or receptionist (normally the letter A and 3 or 4 numbers). This code should be written on an envelope and the prescription should be placed in the envelope and sealed once it has been faxed. This maintains patient confidentiality and also identifies what the taxi driver should collect for delivery to pharmacy.

(d) If a patient is registered with a GP surgery that was a part of the former Derby City PCT, then a McKinley T34 syringe driver will be supplied with the first supply of syringes. Patients who have been discharged from hospital on a syringe driver will normally have a McKinley T34 syringe driver supplied to them on discharge.

(e) GP or district nurses should inform CASU/Duty Pharmacist as soon as practical if the patient has passed away to prevent sending medicines to a patient’s house, as this may be quite upsetting for the relatives.

If a patient registered with a GP surgery that was a part of the former Derbyshire county PCTs is newly started on a palliative care syringe, then the McKinley T34 syringe driver will be supplied by the district nurse.

# CASU staff/ Duty pharmacist will often ask GP’s if a patient has had opioids before especially for a new patient who has been started on a fairly high dose of an opioid. This is part of the duty of care as pharmacists in accordance with both the GPhC and NHS Never Events (Opioid overdose of an opioid-naïve patient).
Useful resources for calculating opioid requirement include:
The Derbyshire end of life toolkit available on Flo; Symptom Management Guidelines.
(Either “traditional” or “progressive” conversions can be used)

2. List of routinely manufactured syringe drivers
See Appendix 1; for the list of syringe drivers routinely made by RDH pharmacy.
- Laboratory data relies on chemical analysis of the syringe mixture as well as visual inspection of the mixture. The combinations in appendix 1 are based on laboratory data.
- Observational data relies on basic visual examination of the product. This is a much less reliable way of determining whether a product is stable.
- Dr’s might find that there are many other combinations recommended by various websites and syringe driver compatibility books. Most of these reference sources rely on observational data.

The following routine is encouraged:
- Prescribe drugs from the available stability list (appendix 1) as the first option.
- If the drugs required are not compatible then consider using two T34 syringe driver pumps.
- If this is unreasonable for the patient then contact the Central Aseptic Services Pharmacist or On-Call Pharmacist to find out if there is any further data that can be used to support stability.

3. Prescription requirements:
The following essential information is required for schedule 2 and 3 controlled drugs (see also Appendix 2)
- Date – valid for 28 days
- Signature and name of prescriber (may be different to the name printed on the prescription – should include who the ACTUAL prescriber is)
- Name, strength and formulation of Controlled Drugs
- Dose i.e. over 24 hours (for CSCI)
- Total quantity, or number of dose units in words and figures
  e.g. if 5 syringes are required, each containing 20mg of diamorphine, then this can be written as either;
  - Inj. diamorphine 20mg in 15ml via syringe driver over 24 hours please send five (5) syringes or
  - Inj. diamorphine 20 mg in 15ml via syringe driver over 24 hours total quantity one hundred (100) milligrams or
  - Diamorphine injection 10mg ampoules, ten (10) ampoules, 20mg in 15ml via syringe driver over 24 hours
Appendix 1
SYRINGE DRIVER COMBINATIONS FROM CASU

SINGLE DRUGS:

<table>
<thead>
<tr>
<th>Drug</th>
<th>Expiry</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cyclizine</td>
<td>7 days</td>
<td>Only available in Water For Injections</td>
</tr>
<tr>
<td>Dexamethasone</td>
<td>24 hrs</td>
<td>Long duration of action (36 – 54 hours). CSCI normally not required.</td>
</tr>
<tr>
<td>Diamorphine</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td>Haloperidol</td>
<td>7 days</td>
<td>Plasma half-life 12 – 35h. Duration of action 24h, sometimes longer.</td>
</tr>
<tr>
<td>Hyoscine Hydrobromide</td>
<td>7 days</td>
<td>More sedating than the butylbromide as crosses blood brain barrier.</td>
</tr>
<tr>
<td>Hyoscine- N-Butylbromide</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td>Ketorolac</td>
<td>24 hrs</td>
<td>Prescribe in sodium chloride 0.9%</td>
</tr>
<tr>
<td>Levomepromazine</td>
<td>7 days</td>
<td>Plasma half-life 15 – 30h. Duration of action 12 - 24h. Can be given as S/C bolus.</td>
</tr>
<tr>
<td>Metoclopramide</td>
<td>3 days</td>
<td>The maximum dose that can fit into a 15ml syringe is 75mg</td>
</tr>
<tr>
<td>Midazolam</td>
<td>7 days</td>
<td>The maximum dose that can fit into a 15ml syringe is 75mg</td>
</tr>
<tr>
<td>Octreotide</td>
<td>4 days</td>
<td>Prescribe in sodium chloride 0.9%</td>
</tr>
<tr>
<td>Oxycodone</td>
<td>7 days</td>
<td></td>
</tr>
</tbody>
</table>

DOUBLE COMBINATIONS:

<table>
<thead>
<tr>
<th>Drug</th>
<th>Expiry</th>
</tr>
</thead>
<tbody>
<tr>
<td>CYCLIZINE</td>
<td></td>
</tr>
<tr>
<td>1. Cyclizine</td>
<td>24hrs</td>
</tr>
<tr>
<td>2. Haloperidol</td>
<td>24hrs</td>
</tr>
<tr>
<td>CYCLIZINE up to 150mg with Haloperidol 4.5mg to 24mg in 15ml</td>
<td></td>
</tr>
<tr>
<td>DIAMORPHINE</td>
<td></td>
</tr>
<tr>
<td>1. Diamorphine</td>
<td>24 hrs/7 days</td>
</tr>
<tr>
<td>2. Cyclizine</td>
<td>24 hrs/7 days</td>
</tr>
<tr>
<td>Diamorphine up to 100mg with Diamorphine up to 1.5g in 15ml (7 days)</td>
<td></td>
</tr>
<tr>
<td>Cyclizine up to 150mg with Diamorphine up to 150mg in 15ml (7 days)</td>
<td></td>
</tr>
<tr>
<td>Cyclizine 150mg with Diamorphine 151mg-300mg in 15ml (24hours)</td>
<td></td>
</tr>
<tr>
<td>Cyclizine 150mg with Diamorphine 301mg or above incompatible</td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>1 Diamorphine 2 Haloperidol</td>
<td>24 hrs/ 7 days</td>
</tr>
<tr>
<td>1 Diamorphine 2 Hyoscine-N-Butylbromide</td>
<td>7 days</td>
</tr>
<tr>
<td>1 Diamorphine 2 Hyoscine Hydrobromide</td>
<td>7 days</td>
</tr>
<tr>
<td>1 Diamorphine 2 Levomepromazine</td>
<td>7 days</td>
</tr>
<tr>
<td>1 Diamorphine 2 Metoclopramide</td>
<td>48 hrs/ 72 hrs</td>
</tr>
<tr>
<td>1 Diamorphine 2 Midazolam</td>
<td>7 days</td>
</tr>
<tr>
<td>1 Diamorphine 2 Octreotide</td>
<td>24 hrs/ 96 hrs</td>
</tr>
</tbody>
</table>

**HALOPERIDOL**

| 1 Haloperidol 2 Hyoscine-N-Butylbromide | 24hrs |
| 1 Haloperidol 2 Hyoscine Hydrobromide | 24hrs |
| 1 Haloperidol 2 Midazolam | 24hrs | Haloperidol up to 7.5mg, Midazolam up to 60mg/15ml |

**LEVOMEPROMAZINE**

| 1 Levomepromazine 2 Hyoscine-N-Butylbromide | 24hrs | Protect from light until administered to patient |
| 1 Levomepromazine 2 Hyoscine Hydrobromide | 24hrs | Protect from light until administered to patient |

**MIDAZOLAM**

| 1 Midazolam 2 Hyoscine-N-Butylbromide | 24hrs |
| 1 Midazolam 2 Hyoscine Hydrobromide | 24hrs |
| 1 Midazolam 2 Octreotide | 24hrs |

**OXYCODONE**

<p>| 1 Oxycodone 2 Haloperidol | 24hrs | Oxycodone 15mg to 150mg, Haloperidol 1.8mg to 9.75mg in 15ml |
| 1 Oxycodone 2 Metoclopramide | 24hrs | Oxycodone 15mg to 150mg, |</p>
<table>
<thead>
<tr>
<th>Drug</th>
<th>Expiry</th>
<th>Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Oxycodone 2 Hyoscine-N-Butylbromide</td>
<td>24hrs</td>
<td>Hyoscine-N-Butylbromide 14.25mg to 39mg in 15ml</td>
</tr>
<tr>
<td>1 Oxycodone 2 Hyoscine Hydrobromide</td>
<td>24hrs</td>
<td>Oxycodone 15mg to 150mg, Hyoscine Hydrobromide 420 to 1380 micrograms in 15ml</td>
</tr>
<tr>
<td>1 Oxycodone 2 Levomepromazine</td>
<td>24hrs</td>
<td>Oxycodone 15mg to 150mg, Levomepromazine 3.75mg to 106.5mg in 15ml. Protect from light until administered to patient</td>
</tr>
<tr>
<td>1 Oxycodone 2 Metoclopramide</td>
<td>24hrs</td>
<td>Oxycodone 15mg to 150mg, Metoclopramide 17.25mg to 37.5mg in 15ml</td>
</tr>
<tr>
<td>1 Oxycodone 2 Midazolam</td>
<td>24hrs</td>
<td>Oxycodone 15mg to 150mg, Midazolam 12.45mg to 37.5mg in 15ml</td>
</tr>
</tbody>
</table>

**TRIPLE COMBINATIONS:**

<table>
<thead>
<tr>
<th>Drug</th>
<th>Expiry</th>
<th>Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Diamorphine 2 Cyclizine 3 Haloperidol</td>
<td>24hrs</td>
<td>Diamorphine up to 750mg, Cyclizine up to 150mg, Haloperidol 4.5mg to 24mg in 15ml</td>
</tr>
<tr>
<td>1 Diamorphine 2 Haloperidol 3 Hyoscine Hydrobromide</td>
<td>24hrs</td>
<td>Haloperidol up to 7.5mg, Midazolam up to 60mg, Diamorphine up to 1050mg in 15ml</td>
</tr>
<tr>
<td>1 Diamorphine 2 Haloperidol 3 Hyoscine-N-Butylbromide</td>
<td>24hrs</td>
<td>Protect from light until administered to patient</td>
</tr>
<tr>
<td>1 Diamorphine 2 Levomepromazine 3 Hyoscine-N-Butylbromide</td>
<td>24hrs</td>
<td>Protect from light until administered to patient</td>
</tr>
<tr>
<td>1 Diamorphine 2 Midazolam 3 Hyoscinehydrobromide</td>
<td>24hrs</td>
<td></td>
</tr>
</tbody>
</table>
Appendix 2

1. Signature of prescriber – the prescription needs to be signed by the prescriber with their usual signature. The pharmacist should either recognise the signature (or believe it to be genuine) or take reasonable steps to satisfy themselves that it is genuine. The prescription may be signed by another prescriber other than the named prescriber and still be legally valid (the address needs to be appropriate for both prescribers). The controlled drugs register entry should record the details of the actual prescriber (the signatory) rather than the named prescriber.

2. Date – the prescription needs to include the date on which it was signed.

3. Address of prescriber – the address of the prescriber must be included on the prescription and must be within the UK.

4. Dose – the dose does not need to be in both words and figures however it must be clearly defined.

5. Formulation – the formulation must be stated; the abbreviations “tabs”, “caps” and “inj” are acceptable.

6. Strength

7. Total Quantity – the total quantity must be written in both words and figures. If the medicine is in dosage units (tablets, capsules, ampoules, millilitres, etc), the Home Office advises this must be expressed as a number of dosage units (e.g. 10 tablets [of 10mg] rather than 100mg total quantity).

8. Quantity prescribed – the maximum quantity of schedule 2, 3 or 4 controlled drugs prescribed should not exceed 30 days.

9. Patient Name

10. Patient address
The best way to hand write prescriptions is as follows:

Using a computer:

Diamorphine hydrochloride injection powder for solution 10mg
5 (five) ampoules
10 mg S/C in 15ml over 24 hours via syringe driver

Midazolam 10mg/2ml solution for injection
5 (five) ampoules
5mg S/C in 15ml over 24 hours via syringe driver

Hyoscine butylbromide 20mg/ml solution for injection
15 ampoules
60mg in 15ml over 24 hours via syringe driver

5 syringes

Date

Prescriber’s signature (PRINT SURNAME)
Dr’s name and address of surgery

Inj Diamorphine 10mg +

Inj Midazolam 5mg +

Hyoscine butylbromide 60mg

in 15ml WFI to be given S/C over 24 hours via syringe driver

Please send FIVE (5) syringes

Date

Prescriber’s signature (PRINT SURNAME)
Dr’s name and address of surgery