Lancashire Care NHS
NHS Foundation Trust

SUBCUTANEOUS SYRINGE PUMP PROTOCOL (Palliative Care)

Protocol Author:	Assistant Director of Nursing (Community Nursing) Community Nursing Clinical Leads Based on policy developed by East Lancashire Syringe Pump Working Policy Group
Protocol Reference Number:	CL056
Date Ratified:	February 2017
Expiry Date:	December 2019

Protocol Statement/Key Objective:

This Protocol Applies Only To the T34 Ambulatory Syringe Pump

To establish a consistent safe approach in the use of drug administration via a Syringe Pump:-

1. To provide a clear framework to support safe and consistent use of the T34 Ambulatory Syringe Pump
2. To provide links to medicines information to support safe and effective practice
3. To maintain patient comfort and safety
4. To support appropriate symptom control and care to patients requiring medicines via a syringe pump

Supporting Health and Wellbeing

Summary

Title of Protocol:	Subcutaneous Syringe Pump Protocol (Palliative Care)
Applicable to:	All registered nurses within LCFT Community Nursing Service suitably trained and assessed as competent in all aspects of this protocol
People / Groups Consulted:	Assistant Director of Nursing (Community Nursing) Deputy Lead Pharmacist (East Lancs locality) Senior District Nurse Sisters East Lancashire Medicines Management Board
Accountable Group	East Lancashire Syringe Pump Working Policy Group
Approved by	Drugs & Therapeutic Committee ACS Quality Group
To be read in conjunction with:	Nursing and Midwifery Council - Standards for Medicines Management National Patient Safety Agency – Promoting safer use of injectable medicines March 2007 National Patient Safety Agency NPSA/2008/RRR05 – Reducing dosing errors with opioid medicines July 2008 National Patient Safety Agency NPSA/2008/RRR011 – Reducing risk of overdose with Midazolam injection in adults Dec 2008 Policy for the management of all aspects of medication, LCFT (PHA001) Controlled drugs procedure, LCFT (PHA058) Procedure for the Transport of Medication (PHA017) Risk management policy RM 005

Version Control

Version number and date approved	Title	Date reviewed	Reason(s) for change
V.1 May 2014	Subcutaneous Syringe Pump Protocol (Palliative Care)	N/A new policy	N/A New policy
V.2 June 2016	Subcutaneous Syringe Pump Protocol (Palliative Care)	June 2016	To include new documentation for the Central Lancashire locality
V.3 Feb 2017	Subcutaneous Syringe Pump Protocol (Palliative Care)	Dec 2016	Review of Policy
V.4 Sept 2017	Subcutaneous Syringe Pump Protocol (Palliative Care)	Sept 2017	To include guidance regarding secure use of bung and y connector
V.5 Jan 2018	Subcutaneous Syringe Pump Protocol (Palliative Care)	Jan 2018	Appendices 1 & 2 updated
V.6 June 2018	Subcutaneous Syringe Pump Protocol (Palliative Care)	June 2018	Appendices 1 & 2 updated with minor amendments relating to new Network prescribing guidance

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1.0 Introduction

A Syringe Pump is a portable battery operated device that is used to deliver a continuous subcutaneous infusion of medicines.

The Syringe Pump is a minimally invasive route of medicine administration.

The **T34 Ambulatory Syringe Pump** is the model recommended for use in Palliative Care in LCFT Community Nursing Services.

This protocol applies only to the T34 Ambulatory Syringe Pump. No other models should be used.

A Syringe Pump can pose serious risk to human life if used incorrectly.

2.0 Purpose

To provide a clear governance framework to ensure a safe and consistent approach to the use of the T34 Ambulatory Syringe Pump.

To provide details of how to set up and administer medication via a T34 Ambulatory Syringe Pump.

To provide easily accessible information about the common medicines used in a Syringe Pump.

3.0 Scope

The protocol is applicable to all Healthcare Professionals within LCFT Community Nursing Service who provide care to patients requiring the administration of medicines via a syringe driver and who are trained and assessed as competent in all aspects of this protocol. This includes Longridge Community Hospital.

4.0 Definitions

Accountable Officer for Controlled Drugs (CDAO) in response to the Shipman Inquiry Fourth Report, the Government introduced a range of measures to strengthen the systems for managing Controlled Drugs to minimise the risks to patient safety of inappropriate use. The new arrangements are underpinned by the Health Act 20062 and The Controlled Drugs (Supervision of Management and Use)

Regulations 20063 made under the provision of the Act NHS bodies are required to appoint an Accountable Officer

Controlled Drug (CD) Some prescription medicines are controlled under the Misuse of Drugs legislation. These medicines are called controlled medicines or controlled drugs. Examples include:

- morphine
- pethidine
- methadone
- oxycodone

Stricter legal controls apply to controlled medicines to prevent them:

- being misused
- being obtained illegally
- causing harm

Syringe Pump a portable battery operated device that is used to deliver a continuous subcutaneous infusion of medicines.

5.0 Duties

The Chief Executive

The Chief Executive as the Accountable Executive Officer has overall responsibility for ensuring the implementation of effective systems and processes in relation to providing safe administration of medicines via a syringe driver and for meeting all statutory requirements. The Chief Executive delegates executive responsibility to the Director of Nursing and the Chief Pharmacist.

The Director of Nursing

Has responsibility for:

a. the organisation's commitment to meet relevant legislation, standards and responsibilities in relation to providing safe systems for the administration of medicines via a syringe driver.
b. Examining any resources implications that need to be addressed Trust wide to implement the syringe driver protocol
c. Provide assurance to LCFT Trust Board of compliance with this protocol.

Clinical Directors

Have responsibility for ensuring the syringe driver protocol is promoted and implemented within their area of responsibility by:

a. Ensuring that all areas give priority to safety.
b. Ensuring that any risks associated with use of syringe drivers are included on risk registers and action plans are implemented and monitored.
c. Discussing with senior managers any issues which require significant expenditure and including these on capital development programme, as appropriate.

Assistant Network Directors/Operational / Service Managers

Have responsibility for effectively implementing the syringe driver protocol in their areas of responsibility by ensuring that:

a. Risk assessments are documented and appropriate actions agreed and undertaken to address identified risks.
b. Residual risks associated with syringe driver use are recorded onto risk registers as per Risk Management Policy.
c. Arrangements are made for all staff to be released to attend appropriate training, on induction and updates as set out in the training needs matrix
d. Where services are provided by agencies / organisations outside the Trust Partnership working arrangements are established with roles, responsibilities, training provision and practice agreed in respect of compliance with relevant legislation and current best practice
e. Providing assurance to the Network Governance Groups of compliance with the procedure.

The Chief Pharmacist

It is the responsibility of the Chief Pharmacist to ensure compliance with all aspects of the protocol relevant to the provision of pharmaceutical services by monitoring and auditing the service level agreements negotiated with the locality pharmacy departments.

The Chief Pharmacist is the Accountable Officer for Controlled Drugs (CDAO) for the Trust. The CDAO must monitor the use of controlled drugs within LCFT and take appropriate action where necessary. The CDAO is responsible for ensuring the safe

and effective use and management of controlled drugs within the Trust and provides assurance to the Board that the CD regulations are being complied with.

Team leaders

Leaders of clinical teams are responsible for

- Ensuring that all staff members are aware of this protocol, understand how to apply it and adhere to it.
- Ensuring that all staff access training appropriate to their role and responsibilities.
- Ensure competency assessment of staff.

Responsibility of all staff (Including Bank and Agency Staff)

All staff, including Bank and Agency staff are responsible for ensuring they are familiar with this protocol, know where to locate it and are compliant with it.

LCFT Drugs & Therapeutics Committee

The Drugs and Therapeutics Committee (D&T) is responsible for:

- The ratification and review of this protocol.
- Providing assurance to the Executive Quality Committee that the protocol has been implemented and is being appropriately applied.

6.0 The Protocol

Anticipatory/Supplementary Subcutaneous Medicines (' Just in case' medicines)

Many palliative care patients will require administration of 'as required' (prn) medication for symptom management.

If more than 2 or 3 doses of any 'as required' (prn) medication are required for symptom control over 24 hours, consider using a Syringe Pump.

In a patient with a Syringe Pump in place consider increasing the doses if more than 2 or 3 doses of any 'as required' (prn) medication are required for symptom control over 24 hours.

- Ensure all supplementary medicines are prescribed and authorised at the appropriate dose and increased as appropriate.
- A palliative care community anticipatory/supplementary subcutaneous medicines authorisation sheet (Form 1) must be completed by a doctor or appropriately qualified non-medical prescriber to allow administration of subcutaneous medication by the community nursing team.
- Please refer to the following guidelines for guidance on appropriate doses.
    - In Blackburn with Darwen, prescribing guidance is available '**Pennine Lancashire Guidelines for the Management of Symptoms in the last hours to days of life'** (see Pennine Lancashire Guidelines for the management of symptoms in the last days of life, available on ELHT intranet and ELMMB)
    - In Central Lancashire, follow the '**Lancashire and South Cumbria Palliative Care Prescribing Guideline'** Consider use of T34 syringe pump if required to manage patient's symptoms and explain when and why a syringe pump will be used

- In a patient's home, where a healthcare professional is administering a controlled drug that has already been prescribed and dispensed to that patient, obtaining a secondary signatory should be based on local risk assessment. Although normally the second signatory should be another registered nurse, where this is not possible, a second suitable person who has been assessed as competent may sign e.g. a health care assistant or student nurse who has been assessed as competent. It is good practice that the second signatory witnesses the whole administration process. For guidance, go to www.doh.gov.uk and search for safer management of controlled drugs: guidance on standard operating procedures.

Administration of Anticipatory/Supplementary Subcutaneous Medicines

- It will often be necessary to administer supplementary subcutaneous medication for symptom control.

- Supplementary subcutaneous medication can be given as a single injection or a Saf-T Intima (or equivalent) can be inserted and left in place for 7 days as long as the site is checked and is not compromised.
- **When a BD Saf-T Intima is in place for administration via a Syringe Pump, the Y adaptor is not to be used to give supplementary medication.**
- Any supplementary medication required should be given as individual medicines and not mixed together in one syringe.
- The maximum recommended volume for a bolus injection at one site is 2mls including a flush. Larger volumes may be painful.
- A flush of 0.5ml 0.9% saline or water for injection should be used after a bolus injection if given via the Saf-T Intima.

Indications for Use of Syringe Pump

(See appendix 5 – Flow Chart for the use of Syringe Pump in Community which provides a summary of the protocol)

It is the chosen method of medicine administration when other routes are inappropriate due to:

- Nausea and Vomiting
- Dysphagia
- Severe Weakness
- Unconsciousness
- Gastro intestinal problems e.g. diarrhoea, bowel obstruction
- Cachexia
- Inability to administer medication via oral route e.g. Head/neck cancers
- Malabsorption
- Care in the last days and hours of life – A syringe pump should only be started in the last hours or days of life if it is indicated for symptom management. Not all dying patients will require a syringe pump.

Advantages in the use of a Syringe Pump

- Increased patient comfort
- Plasma concentration levels of medicines remain constant
- Maintains patient's sense of independence
- Ability to infuse a combination of medicines via one route avoiding repeated injections
- Accurate absorption

Disadvantages in the use of a Syringe Pump

- Irritation, erythema or swelling can occur at the infusion site which may interfere with rate and absorption.
- Once daily loading of medicines may limit flexibility
- Precipitation of medicines

Syringes & Final Volume

- A Luer Lock BD Plastipak syringe must always be used
- No less than a 20ml Luer-lok syringe should be used
- A 20ml or 30ml, Luer-lok syringe can be used
- The prescriber must prescribe the final volume
    - 20ml syringes should be made up to a final volume of 17ml
    - 30ml syringes should be made up to a final volume of 22ml

If the final volume exceeds these amounts seek specialist advice from Specialist Palliative Care Team/Medicines Management.

The final volume includes all prescribed medicines and diluent.

Infusion Rates

T34 Ambulatory Syringe Pump infuses millilitres per hour

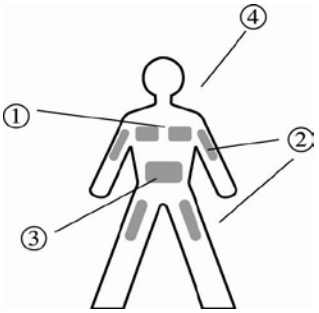
Priming Lines

- The line should be primed prior to loading the syringe onto the device.
- When a site needs changing part way through a 24 hour infusion, unlock syringe pump panel press NO/STOP button do not switch off.
- Remove syringe, prime the new line, re-align the syringe using the FF/BACK button, replace syringe onto the pump.

- Confirm the make of syringe, re-check prescription, and attach line to the patient.
- The display will ask YES/START TO RESUME; do not press NO as this will re-set the 24 hour clock as for a new infusion.

Siting the Infusion

If possible discuss with the patient the preferred infusion site.



Sites of choice include:

- Anterior Chest Wall (1)
- Anterior aspect of upper arms & thighs (2)
- Anterior Abdominal Wall (3)
- Area over scapula (in confused or disorientated patients) (4)

Sites not to be used

- Areas of inflammation
- Areas of any broken skin
- Bony prominence
- Irradiated areas
- Sites of tumour
- Sites of infection
- Skin folds or lymphoedema. Avoid anterior chest wall in cachectic patients.

Site Irritation

- Change site, using a new infusion set, at least 3cm away from original site.
- Review medication in syringe (cyclizine & levomepromazine commonest causes)
- Use a larger syringe; therefore, increasing volume of diluent.
- For problematic site reactions, contact Specialist Palliative Care Team/Medicines Management for advice.
- Sites may need to be changed due to site irritation. Frequency of resiting will in many cases be dictated by the onset of site reactions.
- To detect problems with the infusion site it should be checked a minimum of twice daily, any variance to this practice must be recorded in the patient's records.

Batteries

- Always use a new battery every time a Syringe Pump is commenced.
- An Alkaline Battery 9V PP3 size.
- The average battery life starting at 100% is approx 3-4 days.
- Due to the short battery life, always ensure a spare is readily available.
- Check battery life at each syringe change. Discard battery if life remaining is 40% (community) 10% (hospital).
- Used batteries must be discarded.

Prescriptions and Authorisations

- An FP10 and authorisation **(Form 1 BwD/ Form 2 Central)** with all required medicines needs completing (Community).
- A prescription chart and a Syringe Pump prescription chart with all required medicines needs completing (community hospital)
- Each medicine dose, diluent and final volume must be clearly written on the prescription and authorisation chart by the prescriber and signed.
- The prescriber must complete the authorisation in full.
- If medicines are changed for any reason the previous prescription and authorisation must be discontinued by the prescriber and a new one written.
- If more than 3 medicines are required in the syringe please seek specialist advice

General Points for Safe, Effective Use of Syringe Pump

- At initial set up of the syringe pump, 2 registered nurses are required to check medicines and set up the Syringe Pump (standard 8 NMC) and must be present for the whole procedure.
- Following initial set up, if 2 registered nurses are not available, 1 registered nurse may visit with a competent other e.g. Healthcare assistant or student nurse signed off as competent.
- A T34 Ambulatory Syringe Pump administration and monitoring form is required for each Syringe Pump prescribed **(Form 1 BwD/ Form 2 Central)**

- It is the responsibility of all professionals involved to ensure that they have appropriate training on:-
    - the use of Syringe Pumps
    - up to date knowledge
    - understanding of medicines used, compatibilities and safe doses.

- Ensure all anticipatory medicines are prescribed and authorised at the appropriate dose and increased as appropriate (these medicines may historically have been referred to as 'just in case' medicines).
- The prescriber must prescribe the medicines, dose, diluent and the final volume.
- The final volume includes all prescribed medicines and diluent
- No more than 3 medicines should be mixed in one syringe. If more than 3 medicines are required, seek advice from the Specialist Palliative Care Team or Medicines Management.
- Medicine combinations should be reviewed on a regular basis to check efficacy and appropriateness of medicine/dose prescribed.
- All medicines should be mixed with sterile water for injection unless otherwise stated in the drug monographs
- The setting up of a syringe driver and the administration of medicines via this route will be in accordance with the organisation's Controlled Drug Procedure (PHA058)
- One registered nurse should undertake a return visit in accordance with patient need after initially starting a Syringe Pump to ensure good symptom control e.g. 4 hours
- Syringe Pumps must not be placed at a level higher than the infusion site, to prevent siphoning of the syringe contents from the pump.
- The Syringe Pump must be checked a minimum of twice daily in the community and 4 hourly in Longridge Community Hospital. Any variance to this must be documented in the patient's notes.
- The syringe must be changed every 24 hours because chemical stability of the medicines cannot be guaranteed after this time.
- When the patient's prescribed medicines are changed the changes should be commenced on the same day.

- It is considered good practice to change the giving set and use a fresh site when there is a change in the medicines prescribed but not a change in the dose prescribed.
- Protect Syringe Pumps from direct sunlight, especially mixtures containing levomepromazine. Levomepromazine can develop purple discolouration when exposed to light and should be discarded if this occurs.

Maintenance

- Syringe Pumps should be cleaned after each patient using a disposable cloth, dampened with mild detergent. Do NOT use alcohol wipes.
- Syringe Pumps must be calibrated every 12 months by each service's engineering department.
- A recording system must be in place which clearly identifies the date, Syringe Pump number and person who calibrated the pump.
- Sticking labels to the actual pump is not recommended as this can cause problems with cleaning (only maintenance labels are acceptable which clearly identifies when last serviced).

Patient Information

- Information Leaflet *Information about your Syringe Pump* should be given to the patient. (see Appendix V1)

Documentation

- All relevant documentation must be completed (as per Section 3)

Transportation of Medicines

- Nursing staff should not routinely be involved in the transportation of medicines. Any transportation of medicines that does occur should be in accordance with relevant organisational procedures (Controlled Drugs Procedure (PHA058) and Procedure for the Transport of Medication (PHA017).

7.0 Procedure for setting up T34 Syringe Pump

- Full explanation should be given to the patient/carer and informed consent obtained wherever possible in accordance with relevant organisational policies and procedures.
- LCFT leaflet 'Information about Your Syringe Pump` leaflet number 049/2015, should be given to the patient when the syringe pump is first commenced (appendix 6)

Materials & Equipment

- Dressing pack/blue tray
- T34 Ambulatory Syringe Pump with lock box and key
- T34 Ambulatory Syringe Pump operating manual
- Alkaline battery 9V PPB (Energiser) and spare
- Blunt fill filter needle (lilac hub) (12p)

- Blunt fill non filter needle (red hub) (3p)

- BD Saf – T Intima with Y adaptor (FSP324) – **see appendix 5**
- V-Green extension line (FSC095)
  - Luer-Lok Syringe 20ml/30ml – BD Plastipak
  - Syringe hub (Vygon dual end stopper No. 0999.002)
  - Transparent adhesive film - hydrofilm
  - Sterile alcohol wipes for patient use
  - Medicines and diluents
  - Medication content label
  - Syringe Pump documentation
  - Patient information leaflet

Procedure

- Please refer to Royal Marsden chapter 16 for guidance on maintaining asepsis of key parts.
- 2 registered nurses are required to initiate a syringe pump.
- All vial bungs must be swabbed with a sterile alcohol wipe and left to dry, before piercing. An opening device may be required to open ampoules
- Calculate how many millilitres of volume medicines require e.g.

Metoclopramide30mg	3 x 10mg/2ml ampoules	= 6ml	
			= 7ml
Morphine 30mg	1 x 30mg/1ml ampoule	= 1ml	

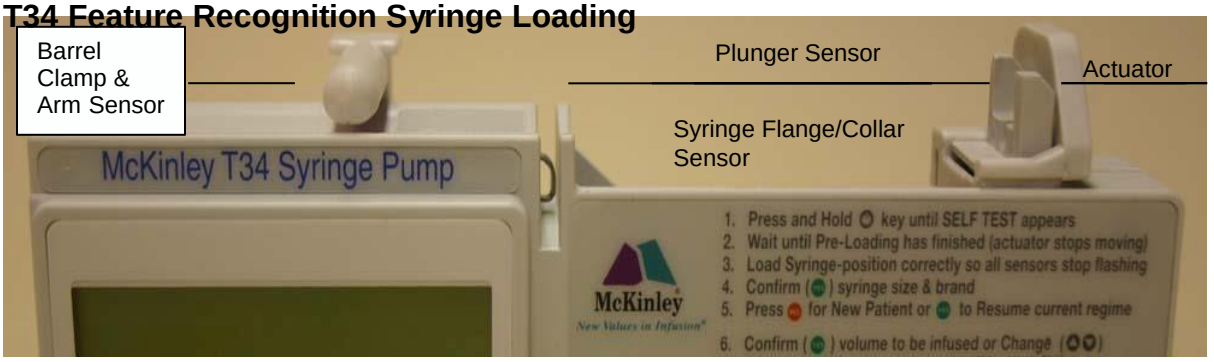
20ml Syringe	7ml medicine	10ml diluent	= Total Volume 17ml
30ml Syringe	7ml medicine	15ml diluent	= Total Volume 22ml

- Draw up prescribed diluent using blunt fill filter needle into a 20ml or 30ml Luer Lock Syringe.
- Draw medicine one into separate syringe using a blunt fill filter needle wasting any excess, add to the administration syringe using a blunt fill non filter needle. Repeat this step until all medicines are added.
- Fit a blind hub to the administration syringe and invert several times to mix contents.

- Check the solution for cloudiness, crystallisation. If present, destroy solution in accordance with relevant procedures e.g. controlled drugs procedure, discard syringe and check compatibilities. Re-prepare the syringe with prescribed medication and diluent.
- Complete syringe label, with details of additives, date and time. Attach to the syringe. Ensure syringe calibration markings are not obscured. Ensure that the label does not interfere with the mechanisms of the Syringe Pump.
- Attach V-Green extension line to the BD Saf-T intima
- Prime the infusion set, making sure connection is secure and all air is expelled.

7.1 Preparing the T34 Ambulatory Syringe Pump

T34 Feature Recognition Syringe Loading



- Barrel clamp arm sensor - (detects syringe size/width of barrel, secures)
- Syringe ear/collar sensor (detects secure loading of syringe collar)
- Plunger sensor (detects secure loading of syringe plunger)
- Actuator

T34 Feature Recognition Keypad

- **INFO"** key – access event log/set up (code protected)/battery status
- "**Up/Down"** arrow keys – increase/decrease parameters/scroll options.
- **"YES/START"** key – confirms selection/starts infusion.
- **"NO/STOP"** key – step back a screen/stops infusion.
- **"FF"** (forward) key – moves actuator forward/purge facility.
- **"BACK"** key – moves actuator back.
- **"ON/OFF"** KEY – power on/off.
- Install battery

- Before placing the syringe onto the T34 Ambulatory Syringe Pump. Ensure the barrel clamp arm is down, press and hold the "ON/OFF" key until the "SELF TEST" screen appears.
- The LCD display will show "Pre-loading" and the actuator will start to move. Wait until it stops moving and the syringe sensor detection screen appears.

- During Pre-Loading the actuator always returns to the start position of the last infusion programmed.

- If the actuator is not in the correct position to accommodate the syringe, leave the barrel clamp arm down and use the "FF" or "BACK" buttons on the keypad to move the actuator. Forward movement of the actuator is limited for safety; therefore repeated presses of the "FF" key may be required when moving the actuator forward. Backwards movement is not restricted.

- Check the battery by pressing the "INFO" key repeatedly until the battery level appears on the screen and press "YES" to confirm. Verify there is sufficient battery power. Discard the battery if there is less than **40%** power remaining in community and **10%** in hospital. Replace with a new battery to ensure the syringe pump will deliver for 24 hours.

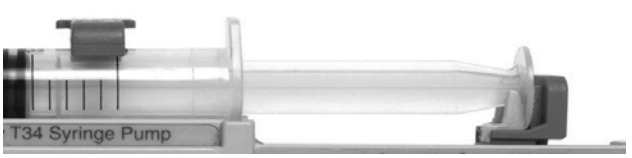
- Ensure the giving set is not connected to the patient at this point as an accidental bolus of medication could be delivered.

- Wait for the screen to go back to load the syringe screen.

- Lift the barrel clamp arm.

- Seat the filled syringe collar/flange and plunger so the back of the collar/flange sits against the back of the central slot (ensure correct placement). The syringe collar/flange should be vertical.

- Lower the barrel clamp arm.



- Ensure the syringe label does not interfere with the mechanism of the infusion device e.g. if there is contact with the barrel clamp arm and sensor. The syringe graphic on the screen ceases to flash at each point as the syringe is correctly seated.

- Confirm that the syringe size and brand match the screen message. Press the "YES" key to confirm or scroll up (**+**) or down (**-**) keys to view the other syringe sizes, select correct syringe and size and press the "YES" key to confirm .

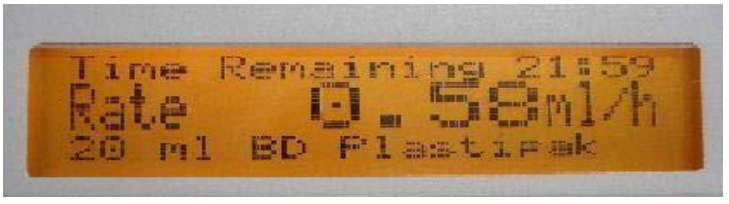
- After the Syringe Confirmation Display the first screen that appears is displayed below

- The T34 Syringe Pump calculates and displays the deliverable volume, the duration of the infusion (24 hours) and the rate of the infusion (ml per hour). Press the "YES" key to confirm the details. The display screen prompts "Start Infusion?"

- Cleanse the area of skin and allow to dry.
- Grasp skin firmly and insert infusion set at a 45 angle. Release the skin and lie the yellow wings against the skin securing with a sterile transparent dressing. **(See appendix 5 - Guidelines for subcutaneous siting of the Saf-T Intima)**

- Start the infusion by pressing the “YES” key.

- When the T34 Ambulatory Syringe Pump is running the screen displays
  - time remaining for current infusion
  - the infusion rate displayed in mls/hour
  - alternates between syringe size and brand and also displays pump delivering ««««”Pump Delivering”
  - The light status indicator flashes green



- The T34 Ambulatory Syringe Pump allows all users to lock the operation of the keypad during infusion. This function should be routinely used to prevent tampering with the device.

- To activate the keypad lock when the pump is infusing press and hold the "INFO" key until a chart is displayed showing a 'progress' bar moving from left to right.

- Hold the key until the bar has moved completely across the screen and a beep is heard to confirm the lock has been activated.

- The "STOP/NO" and "START/YES" and "INFO" keys are still active.

- To turn off the lock, repeat the above procedure. The bar will now move from right (lock) to left (lock) and a beep will be heard.

- Complete all relevant documentation **(BWD forms 3b & 4, Central Lancs forms 3 & 4)**

- Syringe Pump serial number must be documented on all Administration/Observation Charts.

- When first setting up a Syringe Pump one registered nurse must undertake a return visit in accordance with patient need e.g. within 4 hours of initially starting a Syringe Pump to ensure good symptom control.

- The following should be observed at each visit:-

    - Site viability
    - Volume in syringe reducing

- Any crystallisation/precipitation present
- Light is flashing (approximately every 30 seconds)
- Battery life remaining
  - Check bung in situ and secure on Y connector

Discontinuing a Syringe Pump

- To avoid accidental bolus dose of medicines the infusion line must be disconnected from the syringe before it is removed from the Syringe Pump.

Temporary interruption of infusion

- Press “STOP”, press and hold “OFF” button until a beep is heard. The screen will go blank.
- Do not remove syringe from the Syringe Pump.
- Disconnect the line from the syringe and cap the end of the line and syringe tip.
- Record on the monitoring chart, the length of time the infusion is stopped for.

Resuming the infusion

- Check that the prescription, syringe label and patient details match, to ensure that this is the correct syringe for this patient.
- Remove the cap and reconnect the line to the syringe on the Syringe Pump.
- Press and hold the "ON" button until a beep is heard. The screen will request confirmation of syringe size and syringe brand.

- Press "YES" to resume. The screen will display "Remaining volume, duration and rate of infusion". Press "YES" to confirm.

- Do not press NO for new programme as this will reset the pump to deliver the existing syringe over the next twenty four hours.

When a patient dies

- Stop the Syringe Pump.

- Press "INFO" and record the date, time and amount of solution remaining to be infused (in mls).

- Do not remove Syringe Pump until death has been verified.

- Injectable controlled drugs that are no longer needed following the death of a patient should be managed in accordance with the Controlled Drug Procedure (PHA058). Family members/carers should be advised to return all other medicines to the community pharmacy for safe disposal.

Syringe becomes dislodged

- The alarm will sound & the infusion light will turn **red**.

- “Check Syringe Loaded Correctly” window will be displayed.

- Check that the prescription, syringe label and patient details match, to ensure that this is correct syringe for this patient.

- Replace syringe onto the syringe pump, 

- The next screen will request confirmation of syringe size and syringe brand.

- Press “YES” if correct.

- The screen will display:

- Press “YES” to resume previous programme.

WARNING – **If you press “NO”**, the pump interprets this as a completely new 24 hour period and the remaining contents of the syringe would be delivered over the next 24 hours from confirming “Start Infusion”. The patient would not therefore receive the prescribed dose. **If “NO” has been pressed in error, discard the remainder of the syringe contents, and prepare and set up a new syringe.**

- The screen will display: “Remaining volume, duration and rate of infusion”.

- Press “YES” to confirm if this is correct prescription.

- Screen will display: “Start Infusion”.

- Press “YES” to confirm.

T34 Ambulatory syringe Pump Alarm Conditions

When the syringe pump detects a problem four things occur:

- The infusion stops.
- An audible alarm is activated.
- A message appears on the display screen indicating the cause of the alarm.
- The Infusion Light Status Indicator turns **red**

7.2 Troubleshooting Guidelines

Trouble Shooting

The pump will not start

Problem	Solution
No battery present	Fit a battery
Battery inserted incorrectly	Re-align battery terminals
Battery is depleted/very low	Fit a new battery
Pump is faulty	Service required

Infusion Running Too Fast

- If over-infusion occurs, stop infusion, check condition of patient and seek medical advice.
- Check rate setting for accuracy.
- Check for disconnection of line or needle.
- Check syringe securely attached to pump.
- Check box is locked & no tampering has occurred.
- Check no air present in syringe.
- If syringe pump could be faulty return to Electronics & Biomedical Engineering Department. (EBME)

Infusion Running Too Slow

- Check Patient, seek medical advice if required. Has symptom control been lost, does patient require PRN medication?
- Check the syringe pump light is GREEN and flashing.
- Check the battery level.
- Check the rate setting is correct.
- Check the correct syringe brand or size has been programmed.
- Check that syringe is inserted correctly into syringe pump.
- Check if syringe pump has been stopped and re-started for any reason.
- Check contents of syringe/line is there any evidence of crystallisation/kinking of tubing?
- Check needle site if necessary.

- Consider further dilution of medicines to minimise irritation by setting up a fresh syringe.
- Consider metal allergy from needle – contact Palliative Care Team.
- If syringe pump continues to run through too slowly, change entire pump and return to Electronics & Biomedical Engineering Department. (EBME)
- Check rate of infusion at regular intervals.

The Pump has stopped before emptying the syringe

- Check battery has not exhausted. Fit a new battery, turn pump on, confirm syringe size and brand, select “Resume” to continue infusion.

WARNING – If you press “NO”, the pump interprets this as a completely new 24 hour period and the remaining contents of the syringe would be delivered over the next 24 hours from confirming “Start Infusion”. The patient would not therefore receive the prescribed dose. If “NO” has been pressed in error, discard the remainder of the syringe contents, and prepare and set up a new syringe.

- Trapped/kinked infusion line. Free line or kink & resume infusion if appropriate.
- If still not working, return to Electronics & Biomedical Engineering Department. (EBME)

LCD DISPLAY	ALERT/ALARM TYPE	POSSIBLE CAUSE	ACTION
Occlusion/Syringe Empty Check Line & Syringe Press YES to Confirm	Alarm Audible and visual alarm	- Occlusion - Precipitation - Line kinked - Actuator has reached minimum travel position	- New syringe & line required - New syringe & line required - Unkink consider renewing - End of programme, turn pump **OFF**
Press YES to Resume NO for New Syringe	Alarm Audible and visual alarm. Intermittent bleep	Something has occurred which has interrupted the current programme (e.g. syringe displaced/power failure) so the device is prompting the user to their attention	**Pressing YES:** will continue current, interrupted infusion. Check /confirm infusion summary screens & press **YES** to resume the current infusion. **Pressing NO:** will programme a new infusion, e.g. new Syringe & or new patient. The pump will calculate the volume of the syringe & based on duration required will start a new programme.
Pump paused too long Confirm, Press YES	Audible and visual alarm. Intermittent bleep	Pump left in stop mode (on hold) for 2 minutes	Either start infusion, continue programming or switch off
Syringe nearly empty	Alert Audible and visual alarm. Intermittent bleep	15 minutes from end of infusion	Prepare to change syringe or switch off
End Programme Press **YES** to confirm	Alarm Audible and visual alarm. Intermittent bleep	Infusion Complete	Pump will alarm. Press YES to confirm end of programme and OFF to switch pump off
Low Battery	Alert Visual alarm	Battery is almost depleted (15 minutes left)	Prepare to change battery and resume infusion
Battery End	Alarm Visual alarm	Battery is depleted	Change battery and resume infusion
System Error. Press & Hold INFO for details. If problem persists send pump for service.	Alarm: System error	Error has occurred	Pressing **INFO** key will display the reason for the alarm & give advice for correction, if applicable: **If correction not possible:** **-**Remove pump from use & turn power off -Return to Electronics and Biomedical Engineering Department for pump interrogation.

8.0 Medicines Information

Medicines used in Syringe Pump/compatibility.

Introduction

Palliative care patients often exhibit multiple symptoms that require the use of more than one medicine. If a patient's condition deteriorates so that the oral route is no longer available, the Syringe Pump can be used to ensure continued symptom control. The majority of medicines administered as a continuous subcutaneous infusion are unlicensed for subcutaneous use, although most pharmaceutical companies will be aware that it occurs.

Situations routinely arise that require combinations of two or more medicines in the same syringe, however evidence for this practice is lacking. Most combinations used in palliative care are clear, colourless and free from precipitation. However, this does not confer stability because unrecognised chemical reactions may occur. For example, dexamethasone and glycopyrronium mix to form a clear, colourless solution that is free from precipitation. However, at the molecular level, the dexamethasone is reacting with and therefore deactivating the glycopyrronium. No more than 3 medicines should be routinely administered in a single Syringe Pump

If more than three medicines are required in the same syringe, seek advice from Medicines Management or the Palliative Care Team. .

One of the most useful predictors of medicine compatibility is pH. The majority of medicines delivered by continuous subcutaneous infusion are acidic, with only dexamethasone and ketorolac being alkaline. Consequently, combinations involving these medicines tend to be incompatible and separate infusions are usually recommended.

Further information, including the pH values of individual medicines and compatibility details are included in monographs detailed within the East Lancashire Specialist Palliative Care Medicines Information section of the East Lancashire Subcutaneous Syringe Pump Policy (pages 36-56) – http://www.elmmb.nhs.uk/policies-and-guidelines/guidelines/?categoryesctlc02b482b-69a7-4802-8648-32dca0f9155c=55&p=2

Where compatibility details are given in the monographs, it is not intended to imply that mixtures at all concentrations and permutations are necessarily compatible or stable. It is a rough guide for medicines likely to be encountered commonly, at usual doses. If unusual combinations or doses are involved seek advice from the palliative care or medicines management teams.

Note that the monographs are intended as a guide only and are not a replacement for the detailed prescribing information contained within the current edition of the British National Formulary (BNF) and relevant Summary of Product Characteristics (SPC).

Prescribers must ensure that any drug combinations prescribed are recognised to be compatible. Further information regarding drug compatibilities is available from:

- The syringe driver - Dickman et al. Third edition 2015, Oxford University Press
- www.palliativedrugs.com >> SDSD section (registration with the site is required to access this area)
- The specialist palliative care team or hospital based pharmacists (see page 67 for details for details).

If unusual combinations or doses are involved advice MUST be sought from a hospital based pharmacist or specialist palliative care team.

Additional 'as required' (prn) medication

In addition to the medication prescribed in a syringe pump it is often necessary to prescribe other subcutaneous medicines for symptom management that are available if required.

For breakthrough pain

- It is best practice to prescribe additional subcutaneous doses of opioid analgesia equal to 1/6th of the total daily dose of opioid for breakthrough pain. Refer to opioid conversion charts on pages 32 – 33 for further details of recommended doses.

Other symptoms

- In Blackburn with Darwen, prescribing guidance is available '**Pennine Lancashire Guidelines for the Management of Symptoms in the last hours to days of life'** (see Pennine Lancashire Guidelines for the management of symptoms in the last days of life, available on ELHT intranet and ELMMB)
- In Central Lancashire, follow the '**Lancashire and South Cumbria Palliative Care Prescribing Guideline'** Consider use of T34 syringe pump if required to manage patient's symptoms and explain when and why a syringe pump will be used

Prescribing opioids in a syringe pump

Opioids given subcutaneously via a syringe pump are more potent than opioids administered orally. The dose of the opioid prescribed must therefore be adjusted when switching from oral to subcutaneous administration.

Different opioids also vary in their potency and therefore the dose prescribed must be adjusted when switching between different opioid medicines.

The following tables provide guidance on equivalent doses when changing the route of administration or the opioid given. They also provide guidance on the appropriate breakthrough (4hrly) dose of opioid that should be prescribed. The conversion charts are all based on guidance from Lancashire and South Cumbria Palliative and End of Life Care Advisory Group Palliative Care Prescribing Guidelines 2014.

Conversion between Oral Morphine, Oral Oxycodone and Fentanyl Patches

Morphine			Oxycodone		Fentanyl
4 hourly oral	**MR BD oral**	**MR OD oral**	**4 hourly**	**MR BD oral**	**3 day patch**
5mg	15mg	30mg	2.5mg	10mg	12 microgram
10mg	30mg	60mg	5mg	20mg	25 microgram
15mg	45mg	90mg	10mg	30mg	37 microgram
20mg*	60mg*	120mg*	15mg*	40mg*	50 microgram*
30mg	90mg	180mg	20mg	60mg	75 microgram
40mg	120mg	240mg	25mg	80mg	100 microgram
50mg	150mg	300mg	35mg	100mg	125 microgram
60mg	180mg	360mg	40mg	120mg	150 microgram
70mg	210mg	420mg	45mg	140mg	175 microgram
80mg	240mg	480mg	55mg	160mg	200 microgram
90mg	270mg	540mg	60mg	180mg	225 microgram
100mg	300mg	600mg	65mg	200mg	250 microgram
110mg	330mg	660mg	75mg	220mg	275 microgram
120mg	360mg	720mg	80mg	240mg	300 microgram

(Guidance taken from Lancashire and South Cumbria Palliative and End of Life Care Advisory Group Palliative care Prescribing Guidelines 2014)

***Specialist advice should be sought if patients require more than 120 mg morphine (or equivalent) daily**

Notes: 1. Fentanyl 12 microgram per hour patch is licensed for dose titration between 25-50-75 microgram patches but not as a starting dose.

2. This chart represents current BNF recommendations (March 2016). Oral oxycodone is considered to be 1.5 times more potent than oral morphine; transdermal fentanyl is considered 100 times more potent than oral morphine. Please note these figures differ from manufacturers recommendations

Conversion between Oral Morphine, s/c Morphine and s/c Diamorphine

Morphine syringe driver s/c in 24 hours	4 hourly oral morphine	4 hourly s/c morphine	Diamorphine syringe driver s/c in 24 hours
15mg	5mg	2.5mg	10mg
30mg	10mg	5mg	20mg
45mg	15mg	7.5mg	30mg
60mg	20mg	10mg	40mg
90mg	30mg	15mg	60mg
120mg	40mg	20mg	80mg
135mg	45mg	20-25mg	90mg
150mg	50mg	25mg	100mg
180mg	60mg	30mg	120mg

Conversion factors:

1. Oral morphine to s/c morphine - divide by 2

2. Oral morphine to s/c diamorphine – divide by 3

Conversion between Oral Oxycodone and s/c Oxycodone

Oxycodone 4hrly oral (Oxynorm)	Oxycodone bd oral (Oxycontin)	Oxycodone injection s/c 4rly (Oxynorm)	Oxycodone Syringe Pump s/c in 24 hours (Oxynorm)
5mg	15mg	2.5mg	15mg
10mg	30mg	5mg	30mg
15mg	45mg	7.5mg	45mg
20mg	60mg	10mg	60mg
25mg	75mg	10mg-15mg	75mg
30mg	90mg	15mg	90mg
40mg	120mg	20mg	120mg*
50mg	150mg	25mg	150mg*
60mg	180mg	30mg	180mg*
70mg	210mg	35mg	210mg*
80mg	240mg	40mg	240mg*
90mg	270mg	45mg	270mg*

Conversion factors:

1. **Oral Morphine to oral Oxycodone – divide by 2**
2. **Oral Oxycodone to s/c Oxycodone – divide by 2**
   (Note some guidelines suggest divide by 1.5)

***Oxycodone in doses above 100mg given via a syringe pump may necessitate the use of the 50mg/mL preparation.**

SWITCHING BETWEEN OTHER ANALGESIC PREPARATIONS AND THE SYRINGE PUMP

1. Changing from twice daily modified release oral opioids to the Syringe Pump

The Syringe Pump can be started when the next dose of oral modified release opioid is due. However, additional subcutaneous doses may be needed for pain control (i.e. one sixth of the 24 hour dose).

2. Concomitant use of Fentanyl Patches with opioids in a syringe pump

- If a patient has a fentanyl patch in situ and additional analgesia is required by a syringe pump the fentanyl patch should be left in situ
- Maintain the current patch strength
- Continue to change the patch every 72 hours
- When calculating the 'as required' (prn) dose for patients on a Syringe Pump and Fentanyl patch take into account both methods of opioid delivery.
- Calculate the breakthrough dose of 'as required' (prn) subcutaneous analgesia by ADDING the amount required for the fentanyl patch to the amount required for the opioid dose in the syringe pump.

For example:

Patient on a 25 microgram/hour fentanyl patch and receiving 30mg morphine by syringe pump over 24hrs.

To calculate breakthrough dose of subcutaneous morphine:

For 25microgram/hour fentanyl patch: Breakthrough dose from conversion charts = 10mg oral morphine. Divide by 2 to calculate subcutaneous dose = 5mg subcutaneous morphine.

For 30mg morphine in syringe pump: Breakthrough dose = 1/6 of total dose in syringe pump = 30mg divided by 6 = 5mg subcutaneous morphine.

Total dose for subcutaneous breakthrough morphine = 5mg + 5mg = 10mg subcutaneous morphine, as required.

[redacted]

Naloxone is indicated for the reversal of opioid-induced respiratory depression and over dosage with opioids. However be aware that Naloxone will also reverse the analgesic effects of opioids. Naloxone should only be used if opioid related side effects are life threatening.

For respiratory depression: If the respiratory rate is more than 8 breaths/minute and the patient is rouseable and not cyanosed a 'watch and wait' policy is acceptable. The opioid dose should however be reviewed and reduced if needed.

For those patients where there is concern that the patient may be experiencing symptoms of opioid overdose medical opinion should be sought immediately.

[redacted]

Flumazenil is indicated for the complete or partial reversal of the central sedative effects of midazolam.

Symptoms of midazolam overdose can include:
Difficulty staying awake
Mental confusion
Hypotension
Impaired motor functions
Coma

Many patients in the last days of life will be prescribed midazolam via Syringe Pump or just in case, and may exhibit some of the above symptoms.

For those patients where there is concern that the patient may be experiencing symptoms of midazolam overdose, medical opinion should be sought immediately.

For further advice contact the specialist palliative care team – see page 67

9.0 USEFUL CONTACT DETAILS

Blackburn with Darwen

Macmillan Clinical Nurse Specialist 01254 770078

Hospital Macmillan Specialist Palliative Care Team 01254 732316

Community Macmillan Specialist Palliative Care Team 01254 770070

Pendleside Hospice 01282 440100

East Lancashire Hospice 01254 733400

Medicines Information (Pharmacy) East Lancashire Hospital Trust 01282 474335

24 Hour Helpline 07730 63939

For details of community pharmacies in East Lancashire stocking end of life drugs, and details of the end of life drugs that they hold, see http://www.elmmb.nhs.uk/policies-and-guidelines/palliative-care/?assetdetc02b482b-69a7-4802-8648-32dca0f9155c=6252

Central Lancashire

Useful Contact Numbers Central

- St Catherine's Hospice Advice Line 01772 629171

Preston - Pharmacies which stock end of life drugs

- Asda, Eastway, Fulwood, Preston PR29NP TEL 01772 707810
- Lloyds Pharmacy, 112 Deepdale Road, Preston, 01772 254937

Chorley South Ribble - Pharmacies which stock end of life drugs

- MedicX Pharmacy, 13-17 Peel Street, Chorley, PR7 2EY, 01257 754754 Open 7 days per week 8am - 10pm
- Leyland Late Night Pharmacy, 6 Hough Lane, Leyland, PR25 2SD 01772 905678 Monday to Saturday 9am -10pm. Sun. 11am – 10pm
- MedicX Pharmacy, Acreswood Close, Coppull, PR7 5EN, 01257 754004 7 days per week 8am – 10pm
- Asda Pharmacy, Clayton Green, PR6 7JY, 01772 332290 Monday 8am-11pm, Tuesday – Friday 7am-11pm. Saturday 7am-10pm. Sunday 11am-5pm.
- Sainsbury's Pharmacy, Cuerden Way, Bamber Bridge, PR5 6BJ, 01772 312457 Monday-Friday 7am-11pm, Saturday 7am-10pm, Sunday 10.30-16.30

10.0 Training

Training will be a combination of e-learning and face to face training. It is a requirement that training is undertaken as a one off and is supported by competency assessments for registered nurses, student nurses and health care assistants. Competency assessments should be revisited as required.

11.0 Monitoring

Standard	**Time frame/ format**	**How**	**Whom**
Syringe drivers are used as per the guidance within the protocol to administer medication safely.	Each time a syringe driver is used	Via datix incidents	Team Leaders, Managers and Medicines Management Team
All appropriate staff have undertaken syringe driver training	Ongoing	Via training records	Team leader
Staff are competent in the use of a syringe pump	Annually	Team leaders monitor completion of competency assessments	Team Leaders and Managers

12.0 References and information sources

Dickman et al (2002) The Syringe Pump, Oxford Press

Dickman A., Littlewood C. (2000) The Syringe Pump in palliative care, sixth edition, St Helens and Knowsley Hospitals ARD publications.

Macmillan K. Bruerae, E. Kuehn, N. Selsmer, P. Macmillan (1994) A prospective comparison study between a butterfly needle and a Teflon cannula for subcutaneous narcotic administration. Journal of Pain and Symptom management, Vol. 9, No 2.

National prescribing centre, The Handbook for Controlled Drugs Accountable Officers in England. 1st Edition 2011

T. Mitten, (2000) Subcutaneous drug infusions, a review of problems and solutions. International Journal of Palliative Nursing Vol 7, No 2.

O'Doherty CA, Hall EJ, Schofield, L., Zeppetella G. (2001) Medicines and Syringe Pumps. A Survey of adult specialist palliative care practice in the United Kingdom and Eire. Palliative: 15: 149-154.

Sims Graseby (1998) MS26 Syringe Pump instruction manual. Sims Graseby, Hertfordshire

Twycross et al (2002) Palliative Care Formulary, Radcliffe medical press

Twycross R., Wilcock A., Thorp S. (1998) Palliative Care Formulary, Radcliffe Medical Press, Oxon

Twycross R., Wilcock A., (2001) Symptom Management in Advanced Cancer 3rd edition Radcliffe medical press Oxon.

Williams C. (2000) Reducing the risk of user error with infusion pumps. Professional Nurse, March, vol 15, no 6.

Wilson V. (2000) Guidelines for the use of the MS26 daily rate Syringe Pump in the community. British Journal of Community Nursing, vol. 5, No 4.

Appendix 1

FOR USE IN BLACKBURN WITH DARWEN LOCALITY

- MEDICINES AUTHORISATION AND ADMINISTRATION CHARTS (including guidance regarding use of the charts)

These charts are available as a separate document via……..

FOR USE IN BLACKBURN WITH DARWEN LOCALITY

Lancashire Care NHS
NHS Foundation Trust

GUIDANCE FOR THE USE OF THE COMMUNITY PALLIATIVE CARE MEDICINES AUTHORISATION AND ADMINISTRATION CHARTS

These charts are intended for use when any patient requires anticipatory / supplementary subcutaneous medicines and a syringe pump to deliver their medication in the community. They have been developed by a multidisciplinary group for use across the health economy.

FORM 1 T34 AMBULATORY SYRINGE PUMP PRESCRIPTION
• For completion by the prescriber • Specify the previous 24 hour dose of opiate analgesics (syringe pump plus *prn* medication) • Diluent and final volume of medication and diluent in the syringe to be documented • Usually no more than three medicines in one syringe. Seek specialist palliative care or pharmacy advice before adding a 4th medicine to the syringe • Specify the total number of syringe pumps in use and the syringe pump number to which the authorisation relates e.g. 1 of 1, 1 of 2, 2 of 2: **NB NO FORM 2**
FORM 3a T34 PALLIATIVE CARE COMMUNITY ANTICIPATORY/SUPPLEMENTARY SUBCUTANEOUS MEDICINES
• For completion by the prescriber • Each medicine to be prescribed for a specified indication. Complete the indication section of the form where necessary • When prescribing small doses and only where clinically appropriate, consider using whole numbers for doses as this is clearer • Doses less than 1 mg should be written in micrograms • Clarify which medication is to be used 1st line and 2nd line when prescribing more than one for the same indication. • Where relevant, specify a maximum dose in 24 hours for each medicine (when required / *PRN* only – excluding dose in syringe pump) • If symptoms remain uncontrolled or you need advice contact your palliative care team.
FORM 3b PALLIATIVE CARE COMMUNITY SUBCUTANEOUS SYRINGE PUMP / MEDICINES ADMINISTRATION AND OBSERVATION RECORDING CHART
• For completion by nursing staff administering the medication in accordance with Form 2 Subcutaneous Syringe Pump Medicines Authorisation Chart • Record details of the medicines administered via syringe pump and document observations at each visit / check
FORM 4 PALLIATIVE CARE COMMUNITY RECORD OF ANTICIPATORY / SUBCUTANEOUS SUPPLEMENTARY MEDICINES AND INJECTABLE MEDICINES STOCK RECORD
• Record of medication administered by nursing staff, including stock record • If uncertain about administering higher doses seek advice from the prescriber or the palliative care team and document the advice provided in the clinical record

FOR USE IN BLACKBURN WITH DARWEN LOCALITY

East Lancashire Hospitals NHS Trust

Lancashire Care NHS Foundation Trust

FORM 1 T34 AMBULATORY SYRINGE PUMP PRESCRIPTION

Patient name:		Date of Birth:	
NHS/RXR no:		Ward/Community Nursing Team	
Consultant/ GP:			
Known allergies/ alerts:	Previous 24 Hour Analgesics	Hospital / Community prescription (please circle)	

Approved name of medicine (please delete unused lines)	Dose	Route/ Rate	Indication	Pharmacist clinical check (Hospital only)
		SC/24hr		
		SC/24hr		
		SC/24hr		
Specialist advice **must** be sought if 4 drugs to be used		SC/24hr		

Diluent required: Water for injection ☐ Sodium chloride 0.9% ☐	Final volume: 17mL ☐ 22mL ☐	Fentanyl patch in use? Y ☐* N ☐ *If Y please continue & change every 72hrs Patch strength……..micrograms/hour

The prescriber must ensure start date/ time completed to authorise prescription.

Prescriber name (print): Prescriber signature: Date: Time:	Start immediately ☐ Or specify time ……..	Stop date: Stop time: Reason for discontinuing: Name: Signature:

Instructions for use:

- Use one prescription chart for each T34 Ambulatory syringe pump
- Commence a new chart where there are changes to the contents of the syringe pump
- It is the responsibility of the prescriber to ensure all prescribed drugs are compatible
- If more than three medicines are required specialist advice **MUST** be sought
- All medication should be mixed with water for injection unless known incompatibility
- Final volume includes all prescribed medication and diluent, if final volume exceeds these amounts seek specialist advice
- **On discharge:** Keep original prescription. Write a new prescription for community. **On admission:** Send prescription details with patient
- Patient information leaflet given Y ☐ N ☐

For advice on syringe pumps please contact:

Specialist Palliative Care Team:

Hospital: Mon–Fri 8.30-16.30 Tel: 01254 732316

Community: Mon–Fri 9.00- 17.00 Tel: 01282 803103
Hospice 24/7 out of hours advice line: 07730 639399

Pharmacy:

Lancashire Care NHS
NHS Foundation Trust

SYRINGE PUMP INFORMATION:

For information about prescribing for a syringe driver please refer to:-
http://www.palliativecareguidelines.scot.nhs.uk/guidelines/end-of-life-care/syringe-pumps.aspx

1. A continuous subcutaneous infusion is a useful method of administration when the oral route is inappropriate e.g. persistent nausea, vomiting, malabsorption, dysphagia and unconsciousness.

2. Transdermal fentanyl or buprenorphine patches should remain in situ in most cases when the need for a syringe pump is short-term.

3. It is common practice to administer 2-3 drugs in the same syringe. It is not recommended to mix more than 3 drugs without specialist palliative care advice.

4. A predictor of drug compatibility is ph. The majority of drugs given by syringe driver are acidic with only dexamethasone, diclofenac, ketorolac and phenobarbitone being alkaline.

5. For most drug combinations, water for injection is the suggested diluent, as there is less chance of precipitation. Generally, incompatible drugs cause precipitation and thus cloudiness in the syringe. Do not use if this happens.

6. Site irritation may be reduced by diluting the drugs in a greater volume of diluent or using sodium chloride 0.9% as the diluent or substituting a plastic cannula.

7. The prescriber must prescribe the final volume. Usual practice is to administer syringe pump medication using a 20ml syringe made up to a final volume of 17mL. Where the volume of medication to be administered over 24 hours is unusually large, or there are problems with site reactions a larger volume of 22mL administered using a 30mL syringe would be more appropriate. The District Nurse will advise the prescriber where this is the case. If the final volume exceeds these amounts seek specialist advice from the Specialist Palliative Care Team.

FOR USE IN BLACKBURN WITH DARWEN LOCALITY

East Lancashire Hospitals NHS Trust

Lancashire Care NHS Foundation Trust

FORM 3a PALLIATIVE CARE COMMUNITY ANTICIPATORY/SUPPLEMENTARY SUBCUTANEOUS MEDICINES AUTHORISATION SHEET

Patient name:		Patient location:	
NHS/RXR no:		Date of Birth:	
Consultant/ GP:		Ward/ Community nursing team:	
Known allergies/ alerts:		Hospital / Community prescription (please circle)	

Indication	Medicine	Dose	Frequency	Max 24 hr dose to be given PRN	Route	Prescriber Signature	Date/Time Discontinued (inc. signature)
						Prescriber's Signature Print Name / Date	
						Prescriber's Signature Print Name / Date	
						Prescriber's Signature Print Name / Date	
						Prescriber's Signature Print Name / Date	
						Prescriber's Signature Print Name / Date	
						Prescriber's Signature Print Name / Date	

THINK	REMEMBER
Is the patient on a regular opioid, including patches • Patches should usually be left in place • Conversion charts for other opioids to morphine can be found in attached information • To convert oral opioids to a syringe pump or to work out correct "as required" doses, see attached pain algorithm	Rationalise regular medication. After discussion and agreement with the dying person and those important to them (as appropriate), stop any previously prescribed medicines that are not providing symptomatic benefit or that may cause harm.
Is the patient known to have an eGFR less than 30mL/min? • If so, seek advice from a palliative care specialist	Consider other advance care planning needs
Are there any concerns about leaving medication in the home?	Provide an information sheet for patient and relatives (attached)
If the patient is opioid naïve use "as required" doses of analgesia subcutaneously for the first 24 hours. If three or more doses of analgesia are required in 24 hours, consider a syringe pump based on the doses required in the previous 24 hours	Update Out of Hours service
	Use EPaCCs template on EMIS update your records

An example of anticipatory drugs for an opioid naïve patient is given below but prescribing needs should be tailored to a person's individual symptoms and discussed with them and those important to them. Regularly reassess, at least daily, the dying person's symptoms to inform appropriate titration of medicine.

Indication	Medicine	Dose	Frequency	Max 24 hr dose (prn)	Quantity to be supplied
Pain / Breathlessness **Nausea/vomiting**	Morphine sulfate	2.5mg	Hourly prn (pain/pain & breathlessness) 4 hourly (breathlessness)	20mg	5 amps of 10mg/mL
Agitation/Distress	Levomepromazine Midazolam	2.5 to 5mg	6 hourly prn	25mg	5 amps of 25mg/mL
Respiratory Tract Secretions	Glycopyrronium	2.5 to 5mg 200 micrograms	2 hourly prn 2 hourly prn	30mg 1.2mg	5 amps of 10mg/2mL 5 amps of 200 micrograms / 1mL

FOR USE IN BLACKBURN WITH DARWEN LOCALITY

Lancashire Care NHS
NHS Foundation Trust

FORM 3b PALLIATIVE CARE COMMUNITY SUBCUTANEOUS SYRINGE PUMP / MEDICINES ADMINISTRATION AND OBSERVATION RECORDING CHART

Patient Name:	D.O.B.	NHS Number:	Pump Serial No:

Date & Time Started	Batch No/ Expiry Date	Medicine	Dose	Initial Volume	Infusion Rate	Site / Position	Print Name & Signature	The following observations must be recorded at each check						
								Time Checked	Site Viability	Any Crystallisation /Precipitation	Light Flashing	Battery Life Remaining (%)	Volume Remaining (mLs)	Print Name & Signature

FOR USE IN BLACKBURN WITH DARWEN LOCALITY

Lancashire Care NHS
NHS Foundation Trust

FORM 4 PALLIATIVE CARE COMMUNITY RECORD OF ANTICIPATORY/SUBCUTANEOUS SUPPLEMENTARY MEDICINES AND INJECTABLE MEDICINES STOCK RECORD

ONE MEDICINE PER SHEET - ONE STRENGTH PER SHEET

Patient Name:	D.O.B.	NHS Number	Medicine & Strength:

Date & Time Given	Batch No/Expiry Date	Balance	Medicine	Dose	Is this an increased dose? (Yes / No)	No. of Ampoules Used	Site - Sub Cut	Site – Syringe Pump	New Stock	Stock Balance	Signature and Print Name
											HCP 1
											HCP 2
											HCP 1
											HCP 2
											HCP 1
											HCP 2
											HCP 1
											HCP 2
											HCP 1
											HCP 2
											HCP 1
											HCP 2
											HCP 1
											HCP 2
											HCP 1
											HCP 2

Appendix 2

FOR USE IN CENTRAL LANCASHIRE

- MEDICINES AUTHORISATION AND ADMINISTRATION CHARTS (including guidance regarding use of the charts)

These charts are available as a separate document via……..

FOR USE IN CENTRAL LANCASHIRE

Chorley and South Ribble CCG, Greater Preston CCG, Lancashire Care NHS Foundation Trust, and St Catherine's Hospice

GUIDANCE FOR THE USE OF THE COMMUNITY PALLIATIVE CARE MEDICINES AUTHORISATION AND ADMINISTRATION CHARTS

These charts are intended for use when any patient requires anticipatory / supplementary subcutaneous medicines and a syringe pump to deliver their medication in the community. They have been developed by a multidisciplinary group for use across the health economy.

FORM 1 PALLIATIVE CARE - COMMUNITY ANTICIPATORY / SUPPLEMENTARY SUBCUTANEOUS MEDICINES AUTHORISATION SHEET

- For completion by the prescriber
- Each medicine to be prescribed for a specified indication. Complete the indication section of the form where necessary
- When prescribing small doses and only where clinically appropriate, consider using whole numbers for doses as this is clearer
- Doses less than 1 mg should be written in micrograms
- Clarify which medication is to be used 1st line and 2nd line when prescribing more than one for the same indication.
- If prescribing a dose range consider use of the word 'to' rather than a dash, for example morphine 10mg to 15mg. A dash can be misread and lead to errors.
- Where relevant, specify a maximum dose in 24 hours for each medicine, to include medication administered via syringe pump plus *prn* medication
- If symptoms remain uncontrolled or you need advice contact your palliative care team.

FORM 2 COMMUNITY SUBCUTANEOUS SYRINGE PUMP MEDICINES AUTHORISATION CHART

- For completion by the prescriber
- Specify the previous 24 hour dose of opiate analgesics (syringe pump plus *prn* medication)
- Diluent and final volume of medication and diluent in the syringe to be documented
- Usually no more than three medicines in one syringe. Seek specialist palliative care or pharmacy advice before adding a 4th medicine to the syringe
- Specify the total number of syringe pumps in use and the syringe pump number to which the authorisation relates e.g. 1 of 1, 1 of 2, 2 of 2

FORM 3 PALLIATIVE CARE COMMUNITY SUBCUTANEOUS SYRINGE PUMP / MEDICINES ADMINISTRATION AND OBSERVATION RECORDING CHART

- For completion by nursing staff administering the medication in accordance with Form 2 Subcutaneous Syringe Pump Medicines Authorisation Chart
- Record details of the medicines administered via syringe pump and document observations at each visit / check

FORM 4 PALLIATIVE CARE COMMUNITY RECORD OF ANTICIPATORY / SUBCUTANEOUS SUPPLEMENTARY MEDICINES AND INJECTABLE MEDICINES STOCK RECORD

- Record of medication administered by nursing staff, including stock record
- If the prescriber has specified a dose range, administer the lowest dose initially.
- A nurse may increase the dose of an opioid drug within the dose range prescribed if they have satisfactorily completed the LCFT *Care of a Patient Requiring a Syringe Driver* competency assessment for registered nurses
- If uncertain about using higher doses seek advice from the prescriber or the palliative care team and document the advice provided in the clinical record
- If a nurse increases a patient's analgesia then he/she should notify the prescriber / GP of any increase as soon as possible and certainly by the next working day. Where clinically appropriate the medicines authorisation chart should then be rewritten by a prescriber

FOR USE IN CENTRAL LANCASHIRE

NHS Agreed for use by Greater Preston CCG, Chorley and South Ribble CCG, Lancashire Care NHS Foundation Trust and St Catherine's Hospice April 2

FORM 1 PALLIATIVE CARE - COMMUNITY ANTICIPATORY / SUPPLEMENTARY SUBCUTANEOUS MEDICINES AUTHORISATION SHEET

Name:	**G.P. Name & Base:**
Address:	**Community Nurse Team Name & Base:**
Date of Birth:	
NHS Number:	
Known Allergies / Alerts:	

Indication	Medicine	Dose[a]	Frequency	Max 24 hr dose to be given PRN	Route	Prescriber Signature	Date/Time Discontinued (inc. signature)
Pain					SC	Prescriber's Signature Print Name / Date	
Nausea / Vomiting					SC	Prescriber's Signature Print Name / Date	
Agitation / Distress					SC	Prescriber's Signature Print Name / Date	
Respiratory Tract Secretions					SC	Prescriber's Signature Print Name / Date	
Other Indication – Specify					SC	Prescriber's Signature Print Name / Date	
Other Indication – Specify					SC	Prescriber's Signature Print Name / Date	

a Prescribers may specify a safe, limited dose range where appropriate, but when a dose range is prescribed nurses should administer the lowest dose initially, and if uncertain about using higher doses should first seek advice from the prescriber or palliative care team

FOR USE IN CENTRAL LANCASHIRE

THINK	REMEMBER
Is the patient on a regular opioid, including patches • Patches should usually be left in place • Conversion charts for other opioids to morphine can be found in attached information. • To convert oral opioids to a syringe pump or to work out correct " as required" doses, see attached pain algorithm	Rationalise regular medication. After discussion and agreement with the dying person and those important to them (as appropriate), stop any previously prescribed medicines that are not providing symptomatic benefit or that may cause harm
Is the patient known to have an eGFR less than 30ml/min? • If so seek advice from a palliative care specialist	Consider other advance care planning needs
Are there any concerns about leaving medication in the home?	Provide an information sheet for patient and relatives (attached)
If the patient is opioid naïve use "as required" doses of analgesia subcutaneously for the first 24 hours. If three or more doses of analgesia are required in 24 hours, consider a syringe pump based on the doses required in the previous 24 hours	Update Out of Hours service
	Use EPaCCs template on EMIS update your records

An example of anticipatory drugs for an opioid naïve patient is given below but prescribing needs should be tailored to a person's individual symptoms and discussed with them and those important to them. Regularly reassess, at least daily, the dying person's symptoms to inform appropriate titration of medicine.

Indication	Medicine	Dose*	Route	Frequency	Max 24 hr dose (prn plus syringe pump)	Quantity to be supplied
Pain	Morphine	2.5mg	Subcutaneous	1 hourly prn	30mg	5 amps of 10mg/mL
Nausea / Vomiting	Levomepromazine	2.5 to 6.25mg	Subcutaneous	6 hourly prn	25mg	5 amps of 25mg/mL
Agitation / Distress	Midazolam	2.5 to 5 mg	Subcutaneous	2 hourly prn	30mg	5 amps of 10mg/2mL
Respiratory Tract Secretions	Glycopyrronium	200micrograms	Subcutaneous	2 hourly prn	1.2mg	5 amps of 0.2mg/mL

FOR USE IN CENTRAL LANCASHIRE

Agreed for use by Greater Preston CCG, Chorley and South Ribble CCG, Lancashire Care NHS Foundation Trust and St Catherine's Hospice

FORM 2 COMMUNITY SUBCUTANEOUS SYRINGE PUMP MEDICINES AUTHORISATION CHART

SYRINGE DRIVER NUMBER _____ of _____

Name:	**G.P. Name & Base:**
Address:	**Community Nurse Team Name & Base:**
Date of Birth:	
NHS Number:	
Known Allergies / Alerts:	**Previous 24 hour dose of Analgesics:**

MEDICINES TO BE ADDED AND INFUSED VIA SUBCUTANEOUS SYRINGE PUMP OVER 24 HOURS

	MEDICINE	DOSE[a]
1		
2		
3		
4[b]		

Diluent: **Water for Injection / 0.9% Sodium Chloride** Please delete as appropriate	**Final Volume:** **17mL** **22mL** Please delete as appropriate-usually 17mL for 20mL syringe and 22mL for 30mL syringe

Prescriber's Signature:	**Print Name:**	**Date:**
Date/Time Discontinued:	**Reason for Discontinuing:**	**Signature:**

a Prescribers may specify a safe, limited dose range where appropriate, but when a dose range is prescribed nurses should administer the lowest dose initially, and if uncertain about using higher doses should first seek advice from the prescriber or palliative care team

b Specialist advice from the palliative care team or pharmacy / medicines management to be sought before adding a fourth medicine to the syringe pump

FOR USE IN CENTRAL LANCASHIRE

Lancashire Care NHS
NHS Foundation Trust

SYRINGE PUMP INFORMATION:

For information about prescribing for a syringe driver please refer to:-
http://www.palliativecareguidelines.scot.nhs.uk/guidelines/end-of-life-care/syringe-pumps.aspx

1. A continuous subcutaneous infusion is a useful method of administration when the oral route is inappropriate e.g. persistent nausea, vomiting, malabsorption, dysphagia and unconsciousness.

2. Transdermal fentanyl or buprenorphine patches should remain in situ in most cases when the need for a syringe pump is short-term.

3. It is common practice to administer 2-3 drugs in the same syringe. It is not recommended to mix more than 3 drugs without specialist palliative care advice.

4. A predictor of drug compatibility is ph. The majority of drugs given by syringe driver are acidic with only dexamethasone, diclofenac, ketorolac and phenobarbitone being alkaline.

5. For most drug combinations, water for injection is the suggested diluent, as there is less chance of precipitation. Generally, incompatible drugs cause precipitation and thus cloudiness in the syringe. Do not use if this happens.

6. Site irritation may be reduced by diluting the drugs in a greater volume of diluent or using sodium chloride 0.9% as the diluent or substituting a plastic cannula.

7. The prescriber must prescribe the final volume. Usual practice is to administer syringe pump medication using a 20ml syringe made up to a final volume of 17mL. Where the volume of medication to be administered over 24 hours is unusually large, or there are problems with site reactions a larger volume of 22mL administered using a 30mL syringe would be more appropriate. The District Nurse will advise the prescriber where this is the case. If the final volume exceeds these amounts seek specialist advice from the Specialist Palliative Care Team.

FOR USE IN CENTRAL LANCASHIRE

FORM 3 **PALLIATIVE CARE COMMUNITY SUBCUTANEOUS SYRINGE PUMP / MEDICINES ADMINISTRATION AND OBSERVATION RECORDING CHART**

Lancashire Care NHS
NHS Foundation Trust

Patient Name:	D.O.B.	NHS Number:	Pump Serial No:

Date & Time Started	Batch No/ Expiry Date	Medicine	Dose	Initial Volume	Infusion Rate	Site / Position	Print Name & Signature	The following observations must be recorded at each check						
								Time Checked	Site Viability	Any Crystallisation /Precipitation	Light Flashing	Battery Life Remaining (%)	Volume Remaining (mLs)	Print Name & Signature

FOR USE IN CENTRAL LANCASHIRE

FORM 4 PALLIATIVE CARE COMMUNITY RECORD OF ANTICIPATORY / SUBCUTANEOUS SUPPLEMENTARY MEDICINES AND INJECTABLE MEDICINES STOCK RECORD

Lancashire Care NHS
NHS Foundation Trust

ONE MEDICINE PER SHEET - ONE STRENGTH PER SHEET

Patient Name:	D.O.B.	NHS Number	Medicine & Strength:

Date & Time Given	Batch No/Expiry Date	Balance	Medicine	Dose	Is this an increased dose? (Yes / No)	No. of Ampoules Used	Site - Sub Cut	Site – Syringe Pump	New Stock	Stock Balance	Signature and Print Name
											HCP 1 HCP 2
											HCP 1 HCP 2
											HCP 1 HCP 2
											HCP 1 HCP 2
											HCP 1 HCP 2
											HCP 1 HCP 2
											HCP 1 HCP 2
											HCP 1 HCP 2

APPENDIX 3

SYRINGE PUMP RECORDING FORMS FOR LONGRIDGE HOSPITAL

Lancashire Care NHS
NHS Foundation Trust

Syringe Pump Recording Form for Longridge Community Hospital

APPNDIX 3

LONGRIDGE HOSPITAL SUBCUTANEOUS SYRINGE PUMP PRESCRIPTION, ADMINISTRATION AND RECORDING CHART

Name	D.O.B.	NHS No.	Allergy:	Syringe Pump Serial No.

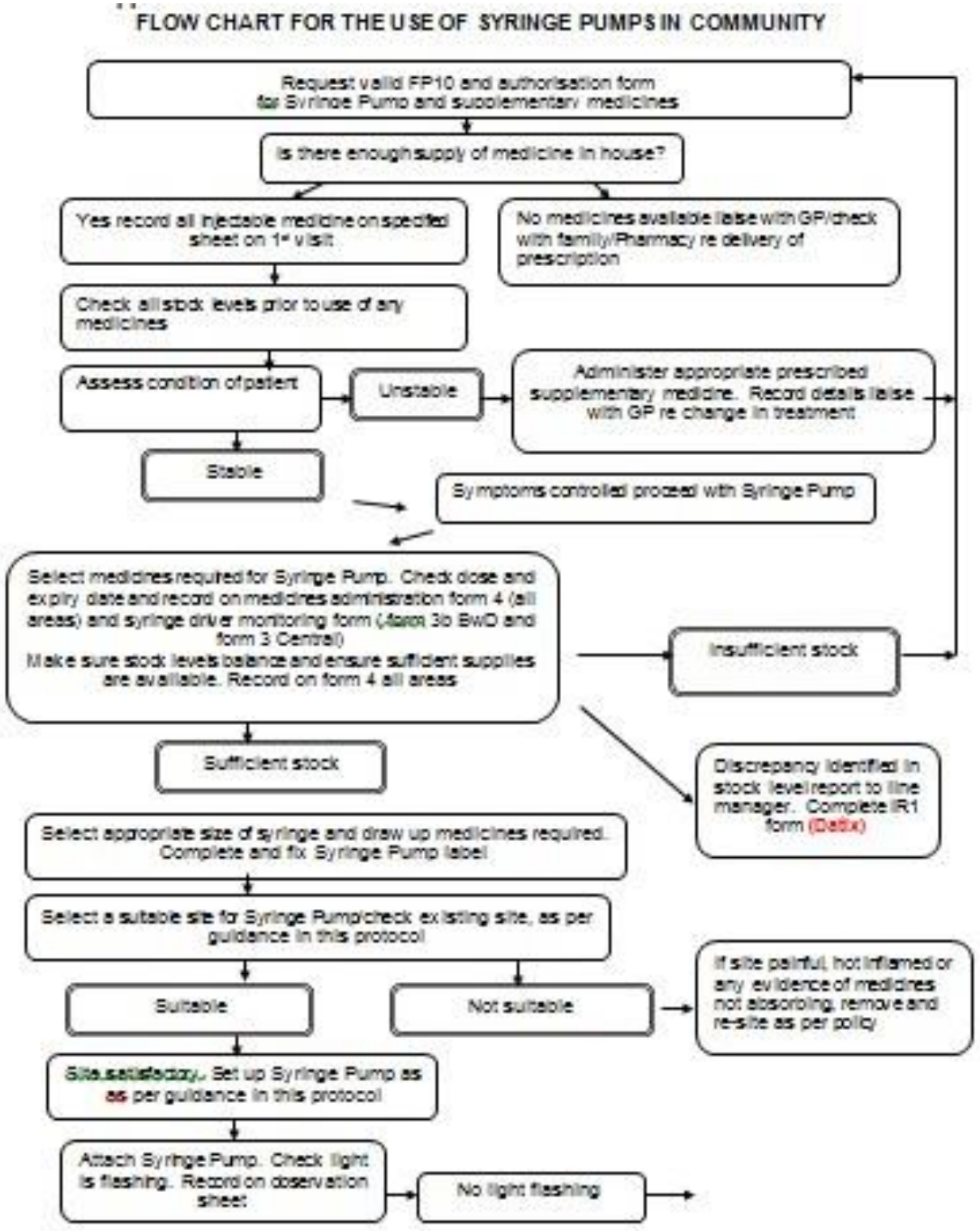
Date	Medicines (approved name) All medicines must be printed in capitals If a medicine is to be added or changed, a new prescription chart must be written and the old one discontinued	Dose over 24 Hours	Route	Diluent	Final Volume (usually 22mL)	Prescriber (signature) and Name	Pharm
	1.		eous				
	2.					Signature	
	4.		ut		Print Name		

Date and Time Commenced	Infusion Rate	Initial Volume	Site	Nurse's Signature	The following observations to be recorded at least twice daily					
					Time Checked	Site Viability	Any Crystallisation Precipitation	Light Flashing	Volume Remaining	Signature & Print Name

APPENDIX 4

FLOW CHART FOR THE USE OF SYRINGE PUMPS IN COMMUNITY

Appendix 4


FLOW CHART FOR THE USE OF SYRINGE PUMPS IN COMMUNITY
Request valid FP10 and authorisation form for Syringe Pump and supplementary medicines
Is there enough supply of medicine in house?
Yes record all injectable medicine on specified sheet on 1st visit
No medicines available liaise with GP/check with family/Pharmacy re delivery of prescription
Check all stock levels prior to use of any medicines
Assess condition of patient
Unstable
Administer appropriate prescribed supplementary medicine. Record details liaise with GP re change in treatment
Stable
Symptoms controlled proceed with Syringe Pump
Select medicines required for Syringe Pump. Check dose and expiry date and record on medicines administration form 4 (all areas) and syringe driver monitoring form (Form 3b BwD and form 3 Central)
Make sure stock levels balance and ensure sufficient supplies are available. Record on form 4 all areas
Insufficient stock
Sufficient stock
Discrepancy identified in stock level report to line manager. Complete IR1 form (Datix)
Select appropriate size of syringe and draw up medicines required. Complete and fix Syringe Pump label
Select a suitable site for Syringe Pump/check existing site, as per guidance in this protocol
Suitable
Not suitable
If site painful, hot inflamed or any evidence of medicines not absorbing, remove and re-site as per policy
Site satisfactory. Set up Syringe Pump as as per guidance in this protocol
Attach Syringe Pump. Check light is flashing. Record on observation sheet
No light flashing

APPENDIX 5

GUIDELINES FOR SUBCUTANEOUS SITING OF THE SAF-T INTIMA

APPENDIX 5

Guidelines for subcutaneous siting of the Saf-T Intima

(Adapted from the North Cumbria Palliative Care guidelines)

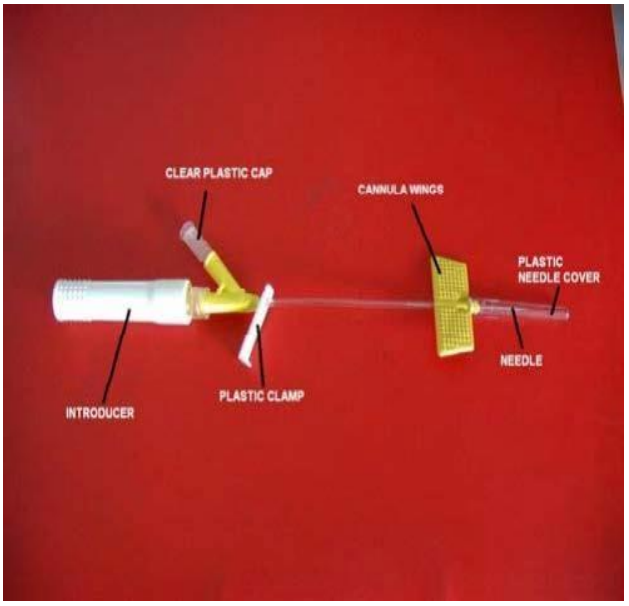
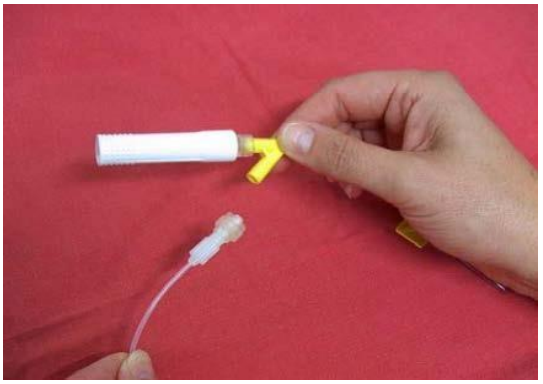


Fig 1.

Fig 2.

1. Remove white plastic clamp from device.
2. Remove small clear plastic cap from the “Y” junction of device (Fig 2.)



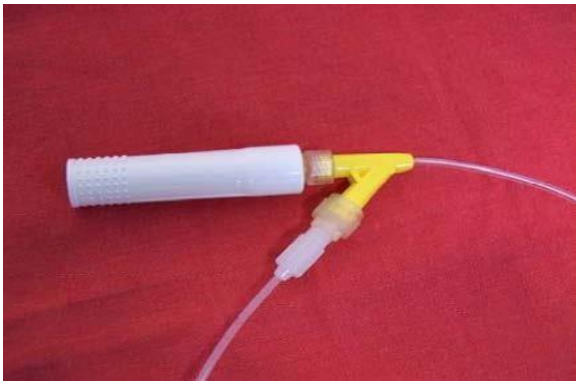


Fig 3. & 4.

3. Attach leur lock end of extension line to the device (Fig 3. Fig 4.)
4. Attach syringe to extension line, prime the line, connect syringe to the pump.

5. Grip ridged yellow wings of the cannula between thumb and index finger so that the bobbled surface is as shown (Fig 5.)

Fig 5.

6. Remove the plastic needle cover (Fig 6.) and insert needle into the chosen site at an angle of 45 degrees and secure site with a clear dressing.

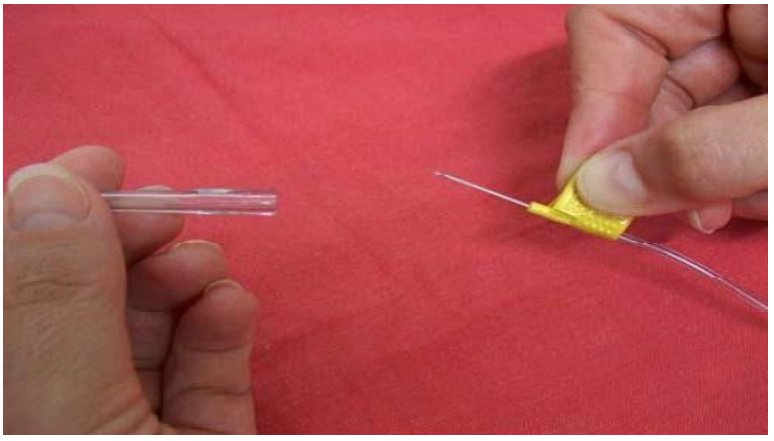


Fig 6.

7. Hold wings of cannula firmly (Fig 8.) and pull back on the introducer (Fig 9.) until you see four distinct parts (Fig 10.)

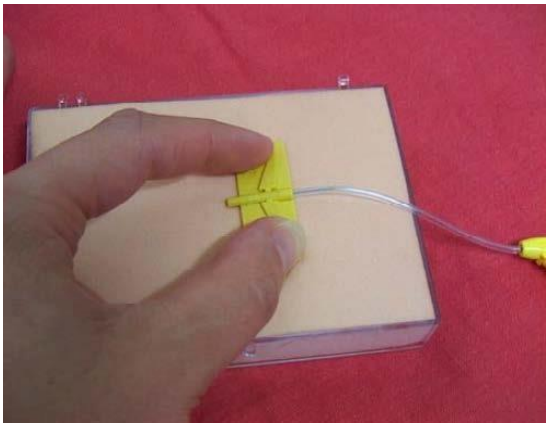


Fig 8.

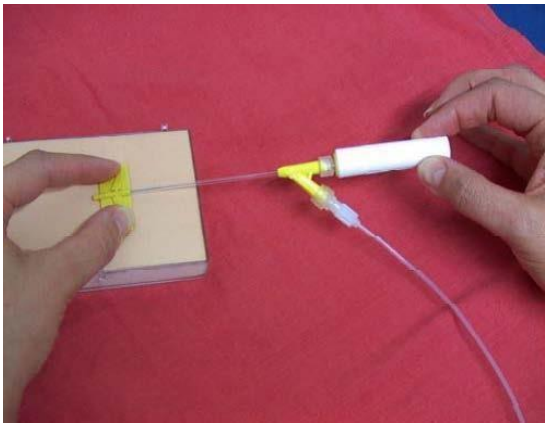


Fig 9.

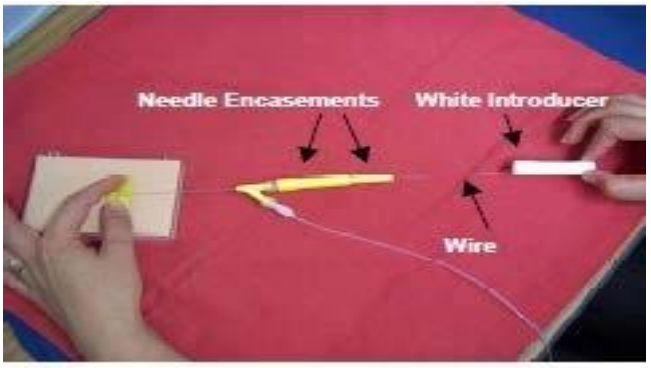


Fig 10.

8. Grip "Y" connection with one hand and the yellow needle encasement with the other hand (Fig 11.)

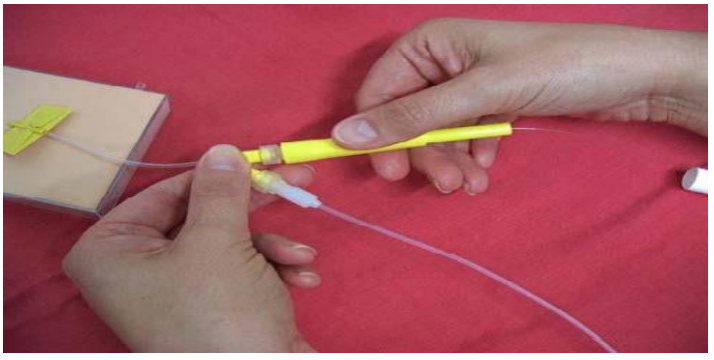


Fig 11.

9. With gentle pulling action, pull the needle encasement away from the "Y" connection. (fig 12.)

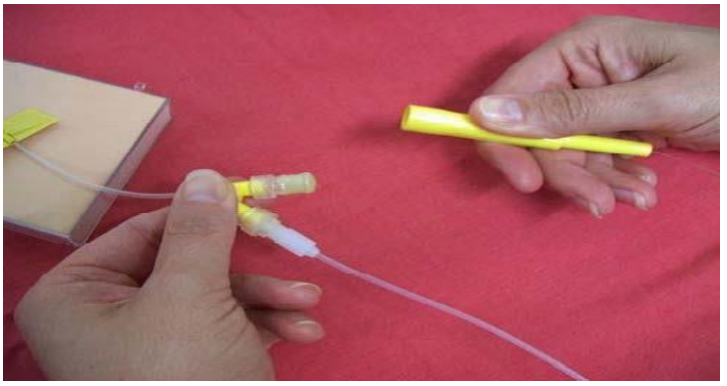


Fig 12.

10. Dispose of needle encasement in the sharps bin.

11. Check bung on Y connection in situ and secure.

APPENDIX 6

PATIENT LEAFLET

INFORMATION ABOUT YOUR SYRINGE DRIVER PUMP

Lancashire Care NHS
NHS Foundation Trust

Information About Your Syringe Pump

Children and Families | Community Services | Mental Health | Secure Services | Specialist Services

Supporting Health and Wellbeing
Pharmacy Service

What is a Syringe Pump?

A Syringe Pump is a small portable battery operated pump, holding a syringe. It allows medicines to be given steadily under the skin via a small needle over a 24 hour period. The pump will hopefully reduce the need for repeated injections.

Why do I need one?

A Syringe Pump is used to give your medicines in an alternative way for various reasons, for example:

- You may be struggling to swallow medicines
- You may have nausea / vomiting which can affect the way medicines are absorbed
- To control your symptoms more effectively

Your Nurse or Doctor will discuss the reasons for starting a Syringe Pump with you and your family / carer. A Syringe Pump can be used at any stage of your illness to control your symptoms, and if you become able to take oral medicines it may be possible to discontinue the Syringe Pump.

Who looks after the Syringe Pump?

Your Nursing team will reload the syringe and your medicines every 24 hours. The device will be checked every time you are seen by a nurse to ensure the pump is operating correctly.

How do I know it is working?

- While the pump is running the indicator light will flash approximately every 30 seconds
- If the alarm sounds contact the Nurses involved in your care immediately so that they can check the device

Taking care of yourself with a Syringe Pump

- Tell your Nurse if you have any redness or soreness where the needle is placed
- Tell your Nurse if the needle comes out or dislodges
- Let your Nurse or Doctor know if your symptoms are not controlled

Some Do's

- Check your medicines are stored safely and away from children and pets
- Discuss your bathing / showering needs with your Nurse
- Contact your Nurse if the medicines change colour or become cloudy
- Seek advice from your Nurse on the safe disposal of unwanted medicines

Some Don'ts

- Do not interfere with the device
- Do not place your device near extremes of heat i.e. near a hot water bottle / in direct sunlight
- Do not allow the pump or needle to get wet, contact the Nurse if this occurs

Contact telephone numbers: .....

Nurse Contact Number: .....

Nurse out of hours contact number: .....

If your call is not answered please leave a message and the service will get back to you at the earliest opportunity.

Further advice and information is available from the Pharmacy Team on:

Central Lancashire:
01772 406640

East Lancashire:
01254 226077

Fylde Coast:
01253 306883

Other sources of information:

Customer Care
If you wish to pay a compliment about the Trust's services, make a comment, raise a concern or complaint, please contact the Customer Care Department on
01772 695315
freephone 0808 144 1010 or
email **customer.care@lancashirecare.nhs.uk**

If you have problems reading the print we can provide this leaflet in large print, audio book or Braille.

এই ডকুমেন্ট অনুরোধে বাংলায় পাওয়া যায়।

本文件可以應要求，製作成中文(繁體字)版本。

આ દસ્તાવેજ વિનંતી કરવાથી ગુજરાતીમાં મળી રહેશે.

ਇਹ ਦਸਤਾਵੇਜ਼ ਮੰਗ ਕੇ ਪੰਜਾਬੀ ਵਿਚ ਵੀ ਲਿਆ ਜਾ ਸਕਦਾ ਹੈ।

درخواست پر یہ دستاویز اردو میں بھی مل سکتی ہے۔

W przypadku jakichkolwiek problemow z odczytaniem tekstu z przyjamnoscia dstarczymy Panstwu ulotke z duzym drukiem, tasme do odluchu lub tekst w jezyku Braille.

Data Protection
Lancashire Care NHS Foundation Trust adheres to The Data Protection Act 1998. The Trust will endeavour to ensure that your information remains secure and confidential at all times. For further information regarding data protection please visit the Trust's website or ask a member of staff for a copy of our leaflet entitled "Sharing Information With Us".

Copies of this leaflet are available from:

Lancashire Care NHS Foundation Trust,
Sceptre Point, Sceptre Way,
Walton Summit, Preston PR5 6AW

Tel: **01772 695300**
Email: **communications@lancashirecare.nhs.uk**
Website: **www.lancashirecare.nhs.uk**

Date Produced:	Review Date:	Leaflet Code:	Name of Leaflet:
June 2015	June 2017	049/2015	Information About Your Syringe Pump