Worcestershire Acute Hospitals NHS Trust

Guideline for the Continuous Subcutaneous Infusion of Medicine via a Syringe Pump in Adults (Acute Trust)

This guidance does not override the individual responsibility of health professionals to make appropriate decision according to the circumstances of the individual patient in consultation with the patient and /or carer. Health care professionals must be prepared to justify any deviation from this guidance.

Introduction

Syringe pump are portable, battery operated devices for delivering medication via continuous subcutaneous infusion (CSCI).

Syringe pumps are a useful way of delivering medication when the oral route cannot be used for a patient and are of particular use in palliative care.

This guidance outlines BD T34 and BD Body Guard Pump use for adult patients within WAHT.

This guideline is for use by the following staff groups:

All Clinical Staff

Lead Clinician(s)

Avril Adams	Lead Nurse Palliative & EOLC
Nicola Potter	CNS Palliative Care
Tess Makinson	EOLC Facillitator
Simon Chippendale	AMBER Care Support Nurse

Approved by Oncology/Haematology Directorate Governance on:	19th January 2022
Approved by SCSD Divisional Quality Governance on:	26th January 2022
Approved by Medicines Safety Committee on:	9th March 2022
Approved by Medical Devices Committee on:	8th June 2022
Review Date: This is the most current document and should be used until a revised version is in place	8th June 2025

Key amendments to this guideline

Date	Amendment	Approved by:
7/11/22	• Section 8 – additional clarification regarding time of commencing infusions to take into account prescribed commencement times • Appendix PF WR5287 Version 2 (update)_	SCSD Governance 30/11/2022

Worcestershire Acute Hospitals NHS Trust

Quick Reference Guide

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1.0 Introduction

The BD T34 & BD BGT syringe pump are portable, battery operated devices for delivering medication by continuous subcutaneous infusion (CSCI). Syringe pumps are a useful way of delivering medication when the oral route cannot be used for a patient and are of particular use in palliative care.

Full Guidance for BD BG T pump can be found in appendices page 22.

Subcutaneous administration of drugs is common and accepted good practice in palliative care.

It is intended that this guidance is used in conjunction with the West Midlands Palliative Care Physicians (WMPCP) Palliative Care Guidelines for the use of drugs in symptom control (2019), the contents of which should meet the needs of most patients and is accepted as current best practice in the West Midlands Region.

2.0 Aim of Guidance

- To define the indications for use of continuous subcutaneous administration of medicine via a syringe pump.
- To determine knowledge and skills criteria for the preparation, administration of medicine, use of syringe pump and patient monitoring.
- To define patient monitoring standards and documentation templates.
- To outline action to take if continuous subcutaneous medication is given outside the dose or rate of that prescribed or there appears to be mechanical problems with the medical device
- To ensure that all registered nurses understand their role and responsibilities with regard to the management and disposal of controlled and other medications.
- To ensure safe clinical practice.

You should consider a CSCI if the patient is unable to manage medication needed for symptom control orally, for example because of:

- intractable nausea and vomiting
- gastro-intestinal obstruction
- dysphagia
- head and neck lesions/surgery
- severe weakness or unconsciousness
- malabsorption
- severe stomatitis
- unsatisfactory response to oral medicines (uncommon)
- patient compliance (also consider transdermal route for analgesia).

3.0 Scope of this document

This policy is intended to support the safe use of the BD T34 and BD BGT Pump by all registered nurses and medical staff working within Worcester Acute NHS Trust.

These syringe pumps are most commonly used to deliver one or more medicine combinations at a predetermined rate via the SC route over a 24 hour period.

- analgesics (usually morphine, alfentanil or oxycodone)
- anti-emetics (metoclopramide, cyclizine, haloperidol, levomepromazine)
- anxiolytic (midazolam, haloperidol, levomepromazine)
- anti-secretory drugs (hyoscine butylbromide,).

4.0 Responsibility and Duties

All practitioners who perform this procedure should be aware of the content of this guidance. In addition, all Registered Nurses have an individual responsibility to ensure that they feel confident and competent in the knowledge and skills of practice in line with Nursing & Midwifery Council (2018). The Code: Professional standards of practice and behaviour for nurses, midwives and nursing associates.

Practitioners should also use this guidance in conjunction with the Trust's Consent Policy when seeking to use a syringe pump with a patient, Infection Control Policy and Procedures, Medicines Policy, Clinical Record Keeping Guidelines, Injectable medicines policy WAHT-CG-516 and Health & Safety Regulation (Safer Sharps).

All incidents, including dosing errors, should be reported following the WAHT Incident Reporting Policy.

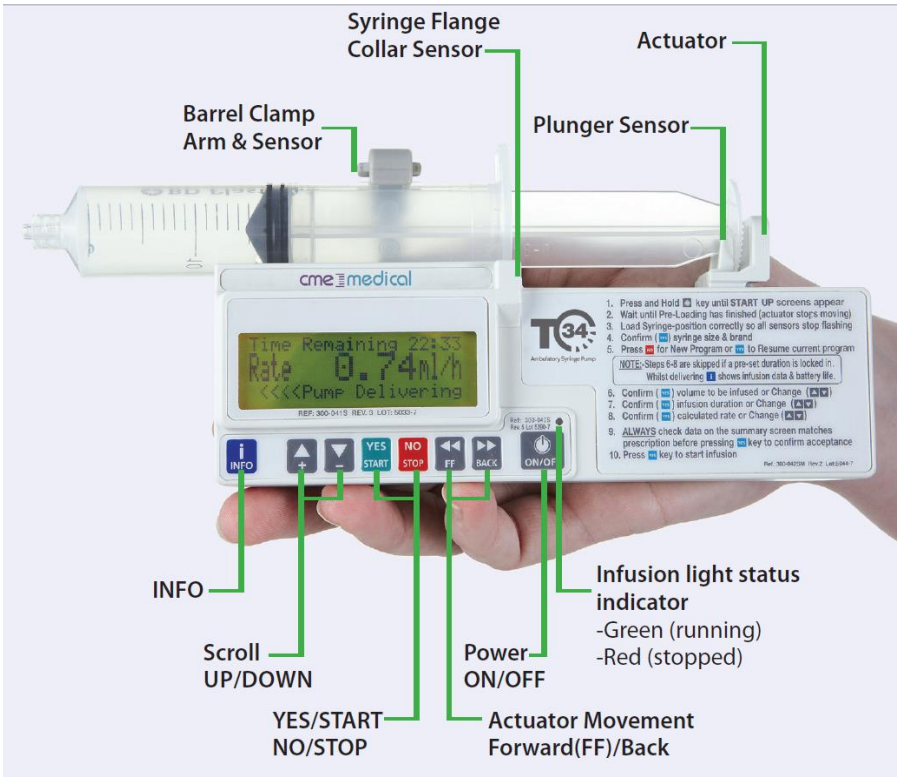
5.0 Education and Training

All staff using the BD T34 and BD BGT syringe pumps must be:

- Competent and are accountable in the use and operation of such devices
- All managers should ensure that relevant training takes place medical devices training via Learning and Development.
- A record of staff who are trained and competent to use such devices, following face to face essential training, is maintained and recorded (The Management of Infusion Systems, SOHD, 1995).

Key Trainers in each area will be responsible for training on the device & competencies. Training can be accessed through WAHT Medical devices training, Trainer or user courses http://nww.worcsacute.nhs.uk/departments-a-to-z/education-training-development/course-directory/medical-devices-training/

6.0 The BD T34 Syringe Pump



7.0 Equipment

- McKinley T34 syringe pump and plastic lockbox and key
- 9v battery
- Luer-lock syringe (20ml or 30ml may be used)
- Infusion or giving set with a volume of 1ml or less
  Vygon Butterfly infusion set 100cm (FSN442)
  Order code FSB 1121
- Clear adhesive film dressing
- Diluent (usually water for injection)
- Medication as prescribed. Single use preparations should be used.
- Syringe and needles to prepare the medicine
- Label to be attached to the syringe barrel so that the graduations can still be clearly seen after being completed with the patient's name, name and dose of drug(s), diluent, final volume (ml), date and time prepared and signature(s) of preparing nurse(s)
- Sharps bin
- WAHT Syringe pump prescription/observation chart (appendices page 22)

7.1 Choice of Syringe

The BD T34 syringe pump is calibrated in **mls per hour**. The standard delivery period for a CSCI in palliative care is 24 hours.

The recommended syringes to use with the BD T34 syringe pump are the Becton Dickinson (BD) Plastipak or Braun Omnifix. (There is a scroll down choice to match the recommended syringe used when setting up the pump). It should be noted that different brands of syringes will have different recommended maximum volumes and local guidance should be adhered to at all times.

It is recommended that only **20ml or 30ml luer-lock** syringes are used as this affords appropriate drug dilution, (thus reducing the risk of adverse drug reactions and incompatibility) whilst minimising the volume of fluid to be infused.
Syringes **MUST** have a luer-lock facility in order to avoid leakage or accidental disconnection.

It is recommended that the **20ml luer-lock syringe** is filled to a standardised volume of **17 ml for a 24-hour infusion** (Dickman 2007).

If a different size syringe is required the fill volumes are recommended as follows:

Size of BD/Braun luer-lock syringe	Fill volume
20ml syringe	17ml
30ml syringe (exceptional circumstances)	22ml

Obtaining a T34 Syringe Driver and lock case in Worcestershire Acute Trust

WRH site
T34 Syringe drivers are available from Laurel 3;
To collect pump:

- contact Laurel 3 to check for availability ,
- Take the patients ID sticker to put in Pump register (for tracking purposes) against the Pump serial number and
- sign for and collect both syringe driver pump and lock-box from Laurel 3.

NB ensure Pumps are cleaned. Return to Laurel 3 when not required, sign back in.

AGH site
T34 pumps are held within a cabinet in the equipment stores

- Take the patients ID sticker to put in syringe pump register (for tracking purposes) against the pump serial number and this will appear above barcode
- sign for and collect both syringe driver pump and lock-box
- Ensure prompt return of equipment to stores when no longer required, sign returned in register.

Do not share pumps across wards or hold onto pumps in case needed; this impacts on stock control/tracking and direct patient care

8.0 Preparing the infusion

- Unless a delayed commencement time to the infusion has been specifically identified on the prescription, a syringe driver infusion should be commenced within 2 hours of the prescription being written.
- Read all the prescription details carefully and confirm that they relate to the patient to be treated.
- Check that the prescribed dose has not already been given and that it is appropriate to administer this to the patient under the circumstance.
- Check that the time elapsed since any long acting preparations were administered is sufficient (please seek palliative care advice as required)
- Ensure that the area in which the medicine is to be prepared is as clean, uncluttered and free from interruption and distraction as possible.
- Check expiry dates of medications.
- Check for damage to containers, vials or packaging and for correct storage.
- Read all labels carefully since some packaging for drugs are similar except for the drug strength.
- Check the patient has no known allergies to the preparations.
- Any calculations should be written down in full and a second healthcare professional should independently work the calculation if available or it should be rechecked by the first individual in circumstances where there is no second healthcare professional available.
- Prepare additive label for the prepared medicine.
- Wash hands as per hygiene policy and follow PPE requirements for preparing IV/SC medication
- Dissolve powdered drugs to be used with appropriate diluent (normally water for injection) using a non-touch technique.
- Draw up drugs into the syringe and dilute to the volume required
    - **17mls in a BD Plastipak 20ml syringe**
    - **22mls in a BD Plastipak 30ml syringe**

      with appropriate diluent if required.
- Fit a blind hub if available to the administration syringe and invert the syringe several times to ensure good mixing.
- Remove the blind hub. Tap the syringe lightly to aggregate the air bubbles at the needle end. Expel the air and refit the blind hub. Check the syringe for cracks and leaks
- Add completed medication additive label, applying to barrel of syringe without obscuring calibrations.
- Make a note of the volume (ml) in the syringe pump. This may vary with different makes of syringe.
- Connect syringe to the infusion line using the luer-lock. The infusion line will need to be primed using some of the contents of the loaded syringe if you are initiating or re-siting the infusion.
- Keep ampoules and any unused medicine until syringe driver set-up is complete to enable further checking procedures to be undertaken.
- Any unused solutions should be disposed of as per local policy.

9.0. Preparing the syringe pump and syringe

It is considered good practice to make the solution as dilute as possible to reduce the likelihood of drug incompatibility and minimise site irritation.

Remember if the prescription is changed, you must prepare a new syringe. NEVER add an additional medicine to the syringe after the infusion has commenced.

In order to reduce the risk of incompatibility it is recommend that no more than 3 drugs are mixed in the syringe driver where possible. If a combination of more than 3 drugs is required please seek palliative care advice.

- Check compatibility if more than one drug (use of PCF 7 and/or West Midlands Palliative care Physicians Guidelines 2020
- Establish the final volume required and select the appropriate size of syringe
- Complete all relevant documentation including a label (see section 10.3 below)
- Draw up the prescribed medication(s) and compatible diluent
- Check pump parts are intact and not damaged – particularly the Actuator and the Syringe Flange Collar sensor, and the driver arm is not worn or bent
- Draw up first drug into luer-lock syringe. Then, dilute to an appropriate volume (total volume less than volume of second drug). Draw up second drug to prescribed dose into a separate syringe of appropriate size and leave needle attached (some vials contain more than the stated dose i.e. metoclopramide)
- Pull back plunger on first syringe to beyond final intended volume, and add second drug carefully through the luer end.
- Check for crystallization and or precipitation of drugs in the solution – if observed report and discard following Trust policy

The following points should be taken into account when using syringe pumps:

- Protect the syringe from direct sunlight whenever possible
- The syringe pump should be placed lower than the infusion site entry to avoid siphoning.
- Carry out a visual inspection of the solution within the syringe at each monitoring check (4 hourly) and discard if evidence of crystallisation, precipitation, cloudiness or change in consistency
- Do not infuse the contents of the syringe pump over a period longer than 24 hours

Labelling the syringe

Ensure the label does not interfere with the mechanism of the syringe pump, i.e. where there is contact with the barrel clamp arm – **no part of the label should be underneath the barrel clamp arm**. When attaching the label, ensure it does not obscure the visual scales on the syringe which may require to be viewed during the infusion. The following details are required on the label.

- patient name
- NHS number
- medicine name(s)

- dose of each medicine
- batch number
- diluent name
- total volume in ml
- date and time prepared
- initials of the individuals preparing the syringe.

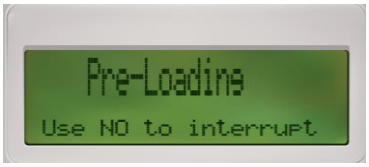
Battery power

Always check the battery power before commencing the infusion. Press the **INFO** key until the battery level option appears on the screen and then press **YES** to confirm. The average battery life, commencing at 100%, is approximately 3-4 days depending on use.

If the battery power has less than 33% life remaining at the start of an infusion then consideration should be made to discarding the battery and installing a new one (as recommended by McKinley). The battery should be removed from the syringe pump when not in use.

10.0 Fitting the syringe to the syringe pump

Before placing the syringe into the pump, ensure the barrel clamp arm is down then press and hold the **ON/OFF** key until the `pump identification` screen appears. The identification screen briefly shows the pump model and software version. The LCD display will indicate `Pre-Loading` and the actuator will start to move. Wait until it stops moving and the syringe sensor detection screen (syringe graphic) appears.



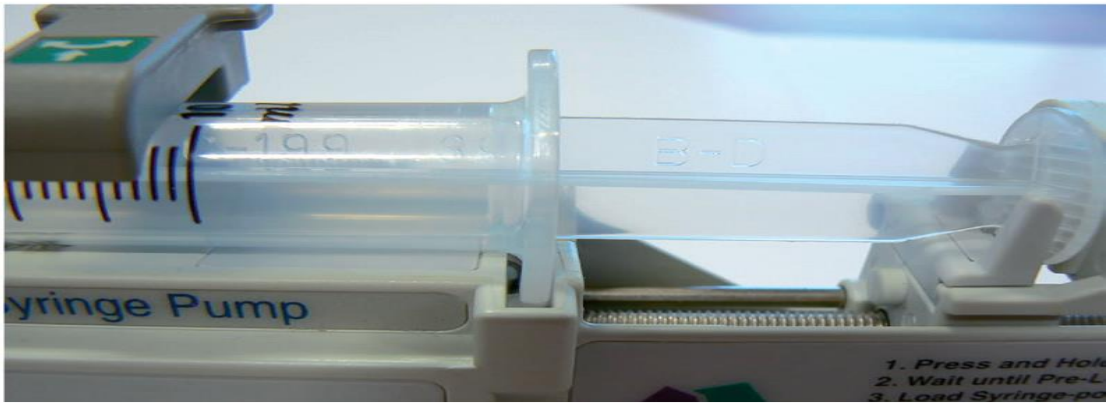
During `Pre-Loading` the actuator will return to the start position of the last infusion programmed. If the actuator is not in the correct position to accommodate the syringe, leave the barrel clamp arm down and use the **FF** or **BACK** keys on the keypad to move the actuator. Forward movement of the actuator is limited, for safety reasons; therefore repeated depressions of the **FF** key may be required when moving the actuator forward. Backwards movement is not restricted.

To avoid an inadvertent administration of a bolus dose, the syringe must be attached to the pump before being connected to the patient.

When fitting the syringe to the syringe pump:

- Check the patient's name (and wristband if used) against the prescription, according to the local medication policy

- Lift the barrel clamp arm and seat the filled syringe collar/ear and plunger so the back of the collar/ear sits in the central slot (ensure correct placement). The syringe collar/ear should be vertical with the scale on the syringe barrel facing forward
- Click the syringe plunger into the actuator. This may require some pressure.
- Lower the barrel clamp arm. The syringe graphic on the screen ceases to flash when the syringe is correctly seated at all three points.



The syringe size and brand option will then be displayed as shown below

- If the syringe size and brand match the screen message, press the **YES** key to confirm.
- If the syringe size and/or brand do not match, scroll with **UP** or

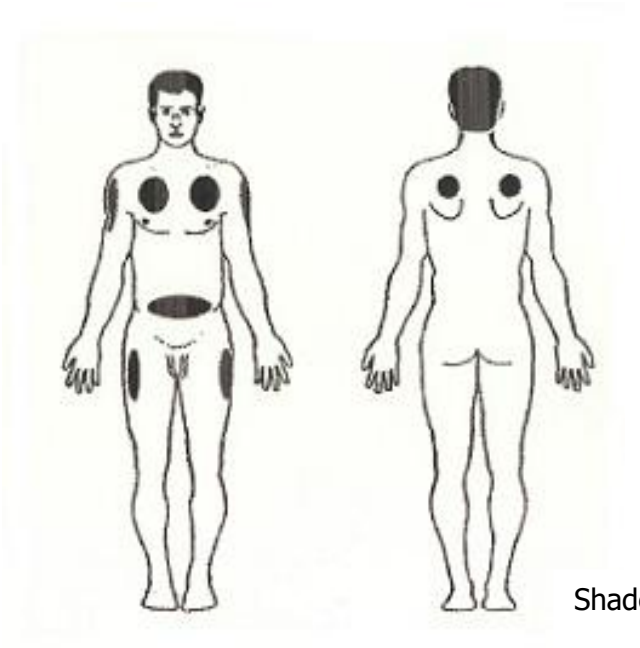
DOWN keys until the correct selection appears, then press the **YES** key to confirm.

Serious incidents have been reported involving uncontrolled flow of medication when the syringe has not been correctly or securely fitted to the syringe pump.

11.0 Siting the infusion

Insert the fine gauge butterfly on the end of the infusion line into the skin of a convenient subcutaneous site. An angle of 45 degrees to the skin should be used with a butterfly (although this may not be possible in very thin patients)
Loop the line once to reduce traction and secure using a clear adhesive film dressing. The aim is to maintain the site for as long as possible.
Refer to Health & Safety (Sharp Instruments in Healthcare) Regulation 2013.

- Use patient's preferred site if possible.
- Consider siting in the chest or abdomen for ambulant patients
- Consider siting in scapula for confused and/or agitated patients
- Avoid siting in upper arms for bed-bound patients
- requiring regular turning but if upper arms are used
- consider siting in non-dominant arm.



Shaded areas indicate potential sites

Document location of site and subsequent changes in the patient's notes, time of setting up and commencement of drug

Commence 4 hourly Syringe driver observation chart (appendix

Areas to avoid siting the infusion in:

- Inflamed areas
- Oedematous areas
- Ascites
- Broken skin
- Bony prominences
- Recently irradiated areas
- Tumour sites

- Sites of infection
- Skin folds
- Lymphoedema

11.1 Connecting the SC infusion line to the syringe

There are two different situations which can occur:

1. A new SC infusion line is required because:
   - a line is not currently in situ
   - the existing line needs to be replaced, e.g. due to site problems or a change in prescribed medication
2. A line is already in situ and can continue to be used
   - Continue with existing subcutaneous infusion

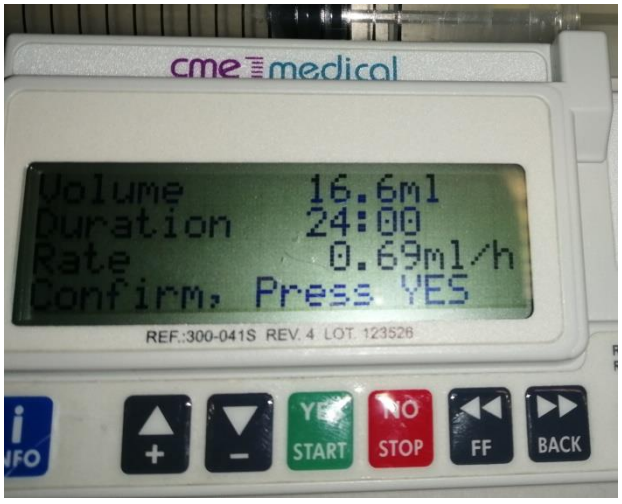
11.2Starting the infusion

When a continuous subcutaneous infusion of drugs is commenced there is a significant time lag before therapeutic levels are achieved. The need for a separate subcutaneous loading dose of drug(s) should therefore be discussed with the prescriber. A loading dose, administered via subcutaneous route, is specifically indicated if the patient has uncontrolled symptoms at the time of initiating a syringe pump infusion.

The prescribing of separate 'as required' subcutaneous bolus doses of drugs is also recommended whenever a syringe pump is in use for palliative or terminal care. Never use the syringe driver to administer a loading or bolus dose of drug.

Every BD T34 syringe pump will be supplied with a lockbox. Universal keys are supplied to each ward nursing team. Replacement keys, if required, are the responsibility of individual teams. Lockboxes must be used at all times when the syringe pump is running. If a key is lost it must be reported using the incident reporting system. Place the pump in the lockbox.

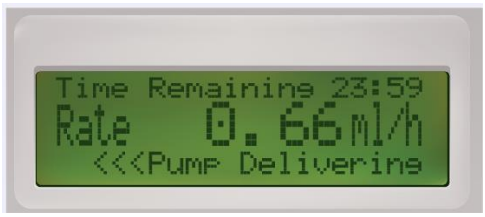
After confirming the syringe type, the next screen message that appears is displayed below:



The pump calculates and displays the total volume, duration of infusion (24 hours) and rate of infusion (ml per hour).
The calculated volume, duration and rate should be checked before pressing YES to confirm or ON/OFF to return to the syringe options.

After pressing **YES** the next screen message that appears will be:

- check the line is connected to the pump and patient
- press **YES** to start infusion
- when the syringe pump is running, the green LED indicator (above the **ON/OFF** switch) flashes and the screen displays



Example Figures only
If the infusion has not been started and a button has not been pressed for more than two minutes, an alarm will sound. The message `Pump Paused Too Long` Confirm, Press **YES** will show on the LCD display. To stop the alarm, press **YES** and continue programming the infusion.

11.3 Keypad lock

The McKinley T34 syringe pump allows users to lock the operation of the keypad during infusion. The function should be routinely used to prevent tampering with the device. To activate the keypad lock, 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.

When the keypad is activated the **INFO**, **YES/START** and **NO/STOP** buttons are still active.

To deactivate the keypad lock (pump must be infusing) repeat the above procedure. The `progress` bar will now move from right (lock on) to left (lock off) and a beep will be heard.

11.4 Changing the SC infusion line when the patient's medication has been changed

It is considered good practice to change the SC infusion line and use a fresh site when the patient's prescribed medication has been changed. The need to change the SC infusion line depends on the change in prescription e.g. when a different combination of medicines is prescribed then a fresh SC infusion line should ideally be used.

A change of SC infusion line will also depend on the patient's condition. In cachectic patients and when a syringe pump has been in use over a long period, alternative sites may be very limited. If the existing site is viable and the medicines are compatible, continued use may be in the patient's best interest.

12.0 Care of the syringe pump - monitoring the BD T34 syringe pump whilst in use

12.1 Care during the infusion

On commencing a syringe driver infusion the following should be documented:
Record serial number of Syringe pump on the documentation

- Note date and time of commencement, and site location

The following monitoring checks should be carried out and documented on the Subcutaneous Infusion Observation Chart, every 4 hours as follows:

- Syringe driver serial number
- Date
- Record the time the syringe pump is checked
- Check the infusion site for:
  - redness
  - swelling
  - discomfort/pain
  - leakage of fluid
- Check the medication is controlling the patient's symptoms
- Check the solution in the syringe and the SC infusion line for cloudiness, presence of large air bubbles (small ones not significant), precipitation or colour change
- Record the flow rate and check it is correct
- Record the volume of solution to be infused and the volume infused and check from this information that the syringe pump is delivering the medication at the desired rate
- Check the battery light is flashing and record the battery percentage
- Record the location of the infusion site when the syringe pump is set up and when the line is changed (this reduces disturbance to the patient during monitoring)
- When the infusion site is changed, record the reason in the `Notes` section
- At each check inspect the SC infusion line to ensure that it is securely attached to both the syringe and the patient and that it is not leaking, kinked or trapped. If there are any problems, then they must be documented.

The individual carrying out the monitoring checks should document and sign the relevant sections of the observation chart. If any checks are not carried out e.g. site check to prevent disturbing the patient whilst asleep, record this and the reason on the monitoring chart**. If any checks indicate a problem e.g. the infusion is not running at the expected rate, the appropriate action must be taken and documented in the `Notes` section.** If an infusion is discontinued before it is complete e.g. because of a change in dose or medicine, document the amount of solution remaining and destroyed (ml) on the observation chart.

Alarms or alerts being sounded

- Significant discrepancies in the actual and expected infusion rate
- Signs of incompatibility
- Blockage of the SC infusion line
- Damage to the syringe barrel or tip, or the presence of a large amount of air, which may indicate the syringe barrel has cracked
- Site reaction

12.2 Stopping the infusion and removing the syringe pump

When the infusion is nearing completion, a warning will be shown on the LCD display screen 15 minutes before the end of the infusion. When the infusion is complete and the syringe is empty, the pump will stop automatically and an alarm will sound. If the syringe pump is no longer required for the patient, press **YES** to confirm the end of the infusion, disable the keypad lock and press and hold the **ON/OFF** switch ensuring the pump is switched off.

If the infusion is to be stopped before the syringe is empty, disconnect the pump from the patient before removing the syringe from the pump to avoid accidental bolus of the drug.

Clean the pump and lockbox as detailed under Cleaning and Decontamination on page 17 (do not immerse the syringe pump in water). Dry and replace in packaging if no longer required for use.

12.3 How to temporarily stop the infusion

This is not normal practice and should only be used in exceptional circumstances (this should **not** be used for priming a second line):

- Press **STOP**, disable the keypad lock and press and hold the **ON/OFF** button
- Do not remove the syringe from the syringe pump
- Note the time the syringe pump was stopped on the observation chart and the length of the time the infusion was stopped for

12.4 What to do if the infusion is interrupted

- To resume the infusion, check the prescription and syringe label match the patient's details
- Press and hold the **ON** button until a beep is heard
- The screen will request confirmation of the syringe size and syringe brand.
- If the syringe size and brand match the screen message press the **YES** key to confirm

Recommence new prescription, giving set and re-site SC infusion

The screen message will display:

12.5 What to do if the patient dies when the Syringe Pump is running:

- Stop the pump.
- Press the “INFO” button and record the date, time and amount of solution remaining to be infused in the syringe (ml).
- If there are doubts about the circumstances of the death, leave the pump in place and contact your line manager for advice including Safeguarding referral. In a straightforward situation, remove the syringe from the pump, destroy the contents and record the signature(s) of person(s) destroying the remaining solution
- Remove the battery from the syringe pump
- Remove butterfly needle as soon as possible.
- Document removal and time stopped.

- Return the syringe driver to Laurel 3 (WRH)/ Equipment Stores (Alex)

13.0 Cleaning and Decontamination

Carry out cleaning of the syringe pump and lockbox with a damp disposable cloth (use warm water and general purpose detergent). Dry thoroughly. If any additional cleaning is required e.g. contamination with bodily fluids or cleaning the threads of the screws the actuator moves along, contact your local Servicing Department and/or Infection Control Team for advice. Do not use chemicals such as Xylene, acetone/similar solvents or Cliniwipes as this will damage components and labels. Lockboxes should **not** be cleaned with alcohol-based products as this causes the lockbox to become more brittle.

14.0 Syringe pump maintenance

- All syringe pumps must be serviced every 12 months.
- Syringe pumps should be sent for maintenance checks immediately if they have been dropped, suffered fluid ingress (e.g. had fluid spilt over them or dropped in a bath) or if there is any doubt as to their functional operation whilst in use.

15.0 Important notes to prescribers

- For Worcestershire Acute NHS Trust (WAHT) prescription must be completed in full following WAHT medicines policy
- **PF WR5287** Subcutaneous Syringe Driver Prescription Chart **(appendices page 22)**
-
- Prior to discharge to the community the Administration of Subcutaneous Drugs via BD T34 Syringe Pump and as Required Bolus Drugs Chart is to be completed for **discharge only** and not used whilst the patient is still an inpatient in WHAT using the Community Prescription charts **(see appendices page 22)** which must accompany the patient on discharge
- The current version of the WMPCP Palliative Care Guidelines for the use of drugs in symptom control (2019) should be kept in the clinical area for staff to refer to and at sites where syringe pumps are used for palliative care therapy. Technical information about compatibility, stability and efficacy of drugs mixed in syringes is available in the guide.
- Seek advice from Palliative Care Team or pharmacist if unsure of combinations and / or compatibility of drugs.
- Do not leave drugs in a syringe pump for more than 24 hours.
- The compatibility of dexamethasone with other drugs is unpredictable and it may be best given in a separate syringe pump or as subcutaneous bolus doses.

16.0 Documentation

Medication for use in a syringe pump should be clearly written using the documentation specifically dedicated for this purpose and all sections completed (see pages 22). the Syringe Pump prescription/Observation Chart on page 22 should be used

16.1 Syringe Pump/Observation chart

- All measurements are in millilitres (ml).

Record / list:

- Barcode number on the syringe pump
- Date and time
- Flow rate in ml per hour
- Battery percentage
- Diluent name and batch number
- Medicine name(s) and batch number(s)
- Total volume (ml) medicines and diluent
- Site used and appearance
- Appearance of solution in syringe (clear, not cloudy)
- Signature(s) of person(s) preparing and checking

Note that after commencement of the infusion, all measurements of the volume of solution in the syringe must be accessed via the INFO button.

17.0 Transfer of Patients

When a patient is discharged from hospital to home/hospice/nursing home with a syringe driver, information should be clearly communicated to the Neighbourhood team.

The Community prescription chart should be completed prior to discharge
Please check that correct prescription chart is utilised
.
It is essential to contact the Neighbourhood Team prior to discharge and inform them of the patient's proposed discharge with a T34 or BD BGT syringe pump.

18.0 Incident Reporting

Systems are in place to monitor and report incidents involving syringe pumps and staff should be familiar with the Trust incident reporting system and relevant documentation. Incident reporting data along with audit data on the use of syringe pumps will be used to identify training needs.

18.1 What defines an incident?

An incident is any untoward, unplanned or unwanted event or circumstance that caused harm, damage or loss of service affecting patients, staff, contractors, visitors, members of the public or property. A patient safety incident is any unintended or unexpected incident which could have or did lead to harm for one or more patients receiving NHS care.

When a pump is involved in an incident, it should be isolated from use to enable it to be preserved intact, and the incident form details should include the make, model number and how the pump was being operated at the time of the incident. Incident forms should be completed regardless of whether harm was caused and also if the pump is not been connected before the problem is discovered (near miss). Please contact the Hospital Palliative care team to inform them of the incident who will collect the pump in order to return to Community Equipment stores for inspection.

Specific examples include:

- Administration of incorrect medication, dose and/or diluent
- Infusions completing ahead of intended time (finishing > 1 hour early, assuming a 24 hour infusion, that is approximately 5% or more early)
- Infusions carrying on beyond intended time of completion (carrying on for > 1 hour late, assuming a 24 hour infusion, that is approximately 5% or more late – alternatively > 5% of the prescribed medication remaining in the pump at the end of the prescribed infusion period)
- Device not alarming during an alarm condition
- An error code is being displayed

Please note that where there is a known reason for the infusion not completing on time (e.g. the pump was stopped to enable the patient to bathe; changing the infusion set) then allowance should be given for this delay in deciding whether to report this as an incident.

19.0 References:

BD T34 ambulatory syringe pump guidance

Dickman A (2007) Devices for continuous subcutaneous infusions in Hospital Pharmacy Europe; Technology Update: Syringe Drivers

Nursing and Midwifery Council (2015) The NMC Code of Professional Conduct, Standards for Conduct, Performance and Ethics. NMC. London

Promoting safer use of injectable medicines (2007) National Patient Safety Agency.

Scottish Office Health Department (May 1995**)** The Management of Infusion Systems.

West Midlands Palliative Care Physicians (2019) Palliative Care Guidelines for the use of drugs in symptom control Independent Production.

Worcestershire HACW (2013) Standard Operating Procedure for promoting safer use of injectable medicines, prescribing, preparing & administering injectable medicines in clinical areas in the provider services.

Health & Safety (Sharp Instruments in Healthcare) Regulation 2014

20.0 Useful Links

www.wmcares.org.uk/wmpcp/guide

https://www.bd.com/en-uk/products/infusion/infusion-devices/cme-ambulatory-infusion-systems/t-series-syringe-pumps/t34-ambulatory-syringe-pump-3rd-edition

T34 Ambulatory Syringe Pump 3rd Edition

Videos including

- How to set up
- Lock off Set up
- Visual differences between 2nd and 3rd edition pumps
- How to clean T34 3rd Edition pump

Appendices

BD BodyGuard™ T – Quick Reference Guide

BodyGuard_T_QRG9
99-103BDEN_Rev03.

BodyGuard™ T syringe pump - Date and Time setting

BD-39691 Date and
time setting on the Bc

WAHT PF WR5287 Subcutaneous Syringe Driver Prescription Chart – Version 2

PF WR5287 V2.pdf

H & W Community Anticipatory Medicines prescribing document

Worcestershire
community prescriptic

Warwickshire community prescription chart

South Warwickshire
NHS Foundation Trust

Monitoring

Page/ Section of Key Document	Key control:	Checks to be carried out to confirm compliance with the Policy:	How often the check will be carried out:	Responsible for carrying out the check:	Results of check reported to: *(Responsible for also ensuring actions are developed to address any areas of non-compliance)*	Frequency of reporting:
	WHAT?	**HOW?**	**WHEN?**	**WHO?**	**WHERE?**	**WHEN?**
	These are the 'key' parts of the process that we are relying on to manage risk. We may not be able to monitor every part of the process, but we MUST monitor the key elements, otherwise we won't know whether we are keeping patients, visitors and/or staff safe.	*What are we going to do to make sure the key parts of the process we have identified are being followed? (Some techniques to consider are; audits, spot-checks, analysis of incident trends, monitoring of attendance at training.)*	*Be realistic. Set achievable frequencies. Use terms such as '10 times a year' instead of 'monthly'.*	*Who is responsible for the check? Is it listed in the 'duties' section of the Policy? Is it in the job description?*	*Who will receive the monitoring results? Where this is a committee the committee's specific responsibility for monitoring the process must be described within its terms of reference.*	*Use terms such as '10 times a year' instead of 'monthly'.*
	All relevant staff will have completed their medical devices training.	Monitor ward held training records.	4 times a year	Ward managers Ward Key trainers	Directorate & Divisional Governance	
	All ward key trainers will have received relevant training.	Monitor training records.	4 times a year	Learning & Development		
	Staff comply with the requirements of this policy.	An analysis of incidents involving continuous subcutaneous infusion of medicine via a syringe pump in adults will be conducted.	4 times a year	Alison Smith Medicines Safety Officer	Medicines Safety Committee	
	The required standards for commencing continuous subcutaneous infusion of medicine via a syringe pump within 2 hours of prescribing in adults are followed, as outlined in this policy.	An audit to determine the level of compliance with the required standards will be completed.	Bi annually	Avril Adams Lead Nurse Palliative/Eolc team	EOL steering group	2 times a year

Contribution List

This key document has been circulated to the following individuals for consultation;

Designation
Hospital Palliative care team
Oncology/Haematology Directorate Governance
SCSD Divisional Governance
Pharmacy
Learning & Development

This key document has been circulated to the chair(s) of the following committee's / groups for comments;

Committee
Oncology/Haematology Directorate Governance
SCSD Divisional Governance
Medicines management
Medical Devices Committee

Supporting Document 1 - Equality Impact Assessment Tool

To be completed by the key document author and included as an appendix to key document when submitted to the appropriate committee for consideration and approval.

Please complete assessment form on next page;

NHS Worcestershire Acute Hospitals NHS Trust

NHS Worcestershire Acute Hospitals NHS Trust

Herefordshire & Worcestershire STP - Equality Impact Assessment (EIA) Form
Please read EIA guidelines when completing this form

Section 1 - Name of Organisation (please tick)

Herefordshire & Worcestershire STP		Herefordshire Council		Herefordshire CCG	
Worcestershire Acute Hospitals NHS Trust	x	Worcestershire County Council		Worcestershire CCGs	
Worcestershire Health and Care NHS Trust		Wye Valley NHS Trust		Other (please state)	

Name of Lead for Activity	**Avril Adams**

Details of individuals completing this assessment	**Name**	**Job title**	**e-mail contact**
	Avril Adams	**Lead Nurse Palliative/EOLC**	**Avril.adams1@nhs.net**
Date assessment completed	**13/03/2022**		

Section 2

Activity being assessed (e.g. policy/procedure, document, service redesign, policy, strategy etc.)	**Title:** Guideline for the Continuous Subcutaneous Infusion of Medicine via a Syringe Pump in Adults (Acute Trust)			
What is the aim, purpose and/or intended outcomes of this Activity?	This guidance is intended to support the safe use of the BD T 34 and BD BGT Pump by all registered nurses and medical staff working within Worcester Acute NHS Trust.			
Who will be affected by the development & implementation of this activity?	❑ x❑ ❑ ❑	Service User Patient Carers Visitors	x❑ ❑ ❑ ❑	Staff Communities Other _____
Is this:	❑x Review of an existing activity ❑ New activity			

	❑ Planning to withdraw or reduce a service, activity or presence?
What information and evidence have you reviewed to help inform this assessment? (Please name sources, eg demographic information for patients / services / staff groups affected, complaints etc.	BD syringe pump guidance, T34/BD BGT pump manuals RCN guidance West Midlands Palliative care guidelines (2019)
Q	
Summary of relevant findings	Updated guidance regarding BD BGT pumps that have been purchased by H&W CCG for countywide use.

Section 3

Please consider the potential impact of this activity (during development & implementation) on each of the equality groups outlined below. **Please tick one or more impact box below for each Equality Group and explain your rationale**. Please note it is possible for the potential impact to be both positive and negative within the same equality group and this should be recorded. Remember to consider the impact on e.g. staff, public, patients, carers etc. in these equality groups.

Equality Group	**Potential positive impact**	**Potential neutral impact**	**Potential negative impact**	**Please explain your reasons for any potential positive, neutral or negative impact identified**
Age		X		Guidance provides information for administration of subcutaneous medication whilst an acute hospital inpatient Consistency in medication delivery
Disability		x		Guidance provides information for administration of subcutaneous medication. Consistency in medication delivery to provide symptom control
Gender Reassignment		x		Guidance provides information for administration of subcutaneous medication. Consistency in medication delivery to provide symptom control
Marriage & Civil Partnerships		x		Guidance provides information for administration of subcutaneous medication. Consistency in medication delivery to provide symptom control

Equality Group	Potential positive impact	Potential neutral impact	Potential negative impact	Please explain your reasons for any potential positive, neutral or negative impact identified
Pregnancy & Maternity		x		Guidance provides information for administration of subcutaneous medication. Consistency in medication delivery to provide symptom control
Race including Traveling Communities		x		Guidance provides information for administration of subcutaneous medication. Consistency in medication delivery to provide symptom control
Religion & Belief		x		Guidance provides information for administration of subcutaneous medication. Consistency in medication delivery to provide symptom control
Sex		x		Guidance provides information for administration of subcutaneous medication. Consistency in medication delivery to provide symptom control
Sexual Orientation		x		Guidance provides information for administration of subcutaneous medication. Consistency in medication delivery to provide symptom control
Other Vulnerable and Disadvantaged Groups (e.g. carers; care leavers; homeless; Social/Economic deprivation, travelling communities etc.)		x		Guidance provides information for administration of subcutaneous medication. Consistency in medication delivery to provide symptom control

Equality Group	Potential positive impact	Potential neutral impact	Potential negative impact	Please explain your reasons for any potential positive, neutral or negative impact identified
Health Inequalities (any preventable, unfair & unjust differences in health status between groups, populations or individuals that arise from the unequal distribution of social, environmental & economic conditions within societies)		x		Guidance provides information for administration of subcutaneous medication. Consistency in medication delivery to provide symptom control

Section 4

What actions will you take to mitigate any potential negative impacts?	Risk identified	Actions required to reduce / eliminate negative impact	Who will lead on the action?	Timeframe
		.		
How will you monitor these actions?				
When will you review this EIA? (e.g in a service redesign, this EIA should be revisited regularly throughout the design & implementation)				

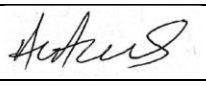
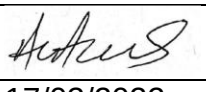
Section 5 - Please read and agree to the following Equality Statement

1. Equality Statement

1.1. All public bodies have a statutory duty under the Equality Act 2010 to set out arrangements to assess and consult on how their policies and functions impact on the 9 protected characteristics: Age; Disability; Gender Reassignment; Marriage & Civil Partnership; Pregnancy & Maternity; Race; Religion & Belief; Sex; Sexual Orientation

1.2. Our Organisations will challenge discrimination, promote equality, respect human rights, and aims to design and implement services, policies and measures that meet the diverse needs of our service, and population, ensuring that none are placed at a disadvantage over others.

1.3. All staff are expected to deliver services and provide services and care in a manner which respects the individuality of service users, patients, carer's etc, and as such treat them and members of the workforce respectfully, paying due regard to the 9 protected characteristics.

Signature of person completing EIA	
Date signed	17/03/2022
Comments:	
Signature of person the Leader Person for this activity	
Date signed	17/03/2022
Comments:	

Supporting Document 2 – Financial Impact Assessment

To be completed by the key document author and attached to key document when submitted to the appropriate committee for consideration and approval.

	Title of document:	Yes/No
1.	Does the implementation of this document require any additional Capital resources	NO
2.	Does the implementation of this document require additional revenue	NO
3.	Does the implementation of this document require additional manpower	NO
4.	Does the implementation of this document release any manpower costs through a change in practice	NO
5.	Are there additional staff training costs associated with implementing this document which cannot be delivered through current training programmes or allocated training times for staff	NO
	Other comments:	

If the response to any of the above is yes, please complete a business case and which is signed by your Finance Manager and Directorate Manager for consideration by the Accountable Director before progressing to the relevant committee for approval.