Leicestershire Partnership NHS Trust

Policy for the Use of the T34 Ambulatory Syringe Driver for Children and Young People in the Community, receiving Palliative Care in Leicester, Leicestershire and Rutland.

Promote procedural uniformity and assist practitioners when using the T34 Ambulatory Syringe Driver

Key Words:	Syringe Driver- CHILDREN	
Version:	3	
Adopted by:	Quality Assurance Committee	
Date Adopted:	16 October 2018	
Name of Author:	Katie Willetts	
Name of responsible Committee:	Clinical Effectiveness Group	
Date issued for publication:	October 2018	
Review date:	April 2021	
Expiry date:	1 October 2021	
Target audience:	FYPC Directorate	
Type of Policy	Clinical ✓	Non Clinical
Which Relevant CQC Fundamental Standards?	N/A	

Contents

ASSOCIATED DOCUMENTATION

Version Control and Summary of Changes

Version number	Date	Comments (description change and amendments)
2	December 2015	Reviewed and updated into new format following original expiry.
3	April 2018	Reviewed and updated. An MDA has been issued 02/03/16 recommending the use of a pouch to protect devices from sunlight. The Diana Service made the decision to use these on all T34's to avoid confusion and ensure compliance. Amendments made regarding checks to the Battery Housing in light of recent MDA/2018/010 Issued March 28th 2018. All T34 ambulatory syringe pumps – risk of unintended pump shutdown and delay to treatment. 'Manufactured by Caesarea Medical Electronics (CME) Ltd – a variation in battery size can cause problems with connections in the battery housing.'

For further information contact:

Senior Nurse, Specialist Nursing
Children and Families Services
Leicestershire Partnership Trust
Bridge Park Plaza
Leicester
LE4 8PQ
Tel: 0116 295 5080

Equality Statement

Leicestershire Partnership NHS Trust (LPT) aims to design and implement policy documents that meet the diverse needs of our service, population and workforce, ensuring that none are placed at a disadvantage over others.

It takes into account the provisions of the Equality Act 2010 and promotes equal opportunities for all.

This document has been assessed to ensure that no one receives less favourable treatment on the protected characteristics of their age, disability, sex (gender), gender reassignment, sexual orientation, marriage and civil partnership, race, religion or belief, pregnancy and maternity.

In carrying out its functions, LPT must have due regard to the different needs of different protected equality groups in their area.

This applies to all the activities for which LPT is responsible, including policy development and review.

Due Regard

LPT must have **due regard** to the aims of eliminating discrimination and promoting equality when policies are being developed. Information about due regard can be found on the Equality page on e-source and/or by contacting the LPT Equalities Team.

Definitions that apply to this Policy

Ambulatory	Treatment that allows a patient to remain on their feet
Subcutaneous	Beneath the skin
Lymphoedematous	An accumulation of lymph in the tissues producing swelling
Ascites	The accumulation of fluid in the peritoneal cavity, causing abdominal swelling
Opioid	Derived from opium
Luer-lock	A glass syringe with a simple lock mechanism to secure needle in place during injections
Occlusion	The closing or obstruction of a hollow organ or part
PRN	As required.

1.0 Purpose of the Policy

The purpose of this policy is to;

- Promote procedural uniformity and assist practitioners when using the T34 Ambulatory Syringe Pump.
- Ensure safe and accountable practice when providing symptom relief for those children and young people where a T34 Ambulatory Syringe Pump is the preferred method of the administration of prescribed medicines.
- Clarify roles and responsibilities.

2.0 Summary and Key Points

This is an updated version of a policy ratified in 2011. It provides a framework for the T34 Ambulatory Syringe Pump within LPT for Children and Young People. The original policy was written in response to a NPSA alert (NPSA/2010/RRR019) to ensure safer administration of symptom control in palliative care.
It provides procedures to inform practitioners to use T34 Ambulatory Syringe Pump; outlined roles and responsibility as well as training requirements, plus indications for use.

3.0 Introduction

The purpose of this policy is to provide a framework for the use of the T34 Ambulatory Syringe Pump within healthcare organisations across Leicester, Leicestershire and Rutland. This policy relates only to the use of the T34 Ambulatory Syringe Pump for symptom control via the subcutaneous route and central line route of administration in palliative care.

The T34 ambulatory syringe pump is being introduced in phases by organisation across Leicester, Leicester and Rutland in response to the requirements of the NPSA alert entitled ‘Safer Ambulatory Syringe Drivers’ (NPSA/2010/RRR019) (2010) and will replace all existing Syringe Drivers used to deliver palliative care medicines.

4.0 Duties within the Organisation

4.1 The Trust Board has a legal responsibility for Trust policies and for ensuring that they are carried out effectively.

4.2 Trust Board Sub-committees have the responsibility for ratifying policies and protocols.

4.3 Divisional Directors and Heads of Service are responsible for:

To ensure that this policy is adhered to in the clinical setting and that there is a clear process for dissemination.

To ensure that staff are released to meet training needs.

To ensure that the line manager(s) are clear in their roles and responsibilities in implementing the policy.

To ensure that staff have access to the correct device and that there are systems in place for the ambulatory syringe pumps to be independently checked and serviced annually.

To act in accordance with organisational policy on the actions required of reported incidents.

4.4 Managers and Team leaders are responsible for:

To ensure that all staff work in line with this policy.

To ensure that staff evidence their competencies annually and where appropriate attend an annual mandatory training up-date session, with records of attendance being kept.

To ensure that staff who are unable to pass their competency are managed in line with the individual organisations 'Fitness to Practice' or 'Performance Management' policy or equivalent.

To ensure that all patient documentation is completed correctly.

To ensure that equipment is released for independent maintenance checks when due.

To act in accordance with organisational policy on the reporting of incidents.

4.5 Responsibility of Staff

- Authorised Prescribers

To clinically assess patients in order to effectively manage the child or young persons symptoms.

To correctly prescribe medication for the child or young person ensuring that PRN medication is prescribed to manage break through symptoms.

To seek advice from a specialist unit when appropriate;
Ward 27 LRI UHL, Senior Medical Staff (oncology) 0116 2585959
Rainbows Hospice 01509 230800
UHL Children's Pharmacists via switchboard, 0300 303 1573
Child's own GP, Consultant paediatrician and or Annette Shawcross in FYPC.

- Qualified Healthcare Professional

Will attend a T34 training session delivered in Diana Children's Community Services and successfully achieve competency in the use of the T34 ambulatory syringe pump prior to use.

Will be able to evidence their competence annually using the documentation included in appendices and where appropriate to the organisation attend an annual mandatory training update, with records of attendance kept.

Will ensure all children and young people have organisational risk assessments as per the Standard Operating Procedure for carried out within 48 hours of acceptance of referral/admission, along with the Emergency Health Care Plan, nursing assessment documentation and Palliative Care Pack.

Ensure that prior to, and during use the equipment is maintained in accordance with organisational policy and that the device has been serviced within the previous twelve months.

Will adhere to policy and ensure that the correct documentation is completed, dated and signed in a manner that is clear, legible and accurate (NMC 2015).

4.6 Responsibility of Clinical Staff

Clinical staff must ensure that consent has been sought, documented and obtained before any care, intervention or treatment described in this policy is delivered. Consent can be given orally and/ or in writing. Someone could also give non-verbal consent as long as they understand the treatment or care about to take place. Consent must be voluntary and informed and the person consenting must have the capacity to make the decision.

In the event that the patient's capacity to consent is in doubt, clinical staff must ensure that a mental capacity assessment is completed and recorded. Someone with an impairment of or a disturbance in the functioning of the mind or brain is thought to lack the mental capacity to give informed consent if they cannot do one of the following;

Understand information about the decision
Remember that information
Use the information to make the decision
Communicate the decision

5.0 Training Needs

There is a need for training identified within this policy. In accordance with the classification of training outlined in the Trust Learning and Development Strategy this training has been identified as: mandatory training.

A record of the event will be recorded on Diana Training database.

The governance group responsible for monitoring the training is PSER within FYPC.

5.1 Staff who use a T34 Ambulatory Syringe Pump must have:

- Either attended a training session delivered by CME Medical, or a local cascade trainer.

- Evidence of attendance or completion should be held by the employing organisation.

Staff new to the skill will be required to complete a competency assessment or equivalent.

Staff who are unable to pass their competency should be managed in line with the individual organisations 'Fitness to Practice' or 'Performance Management' policy or equivalent.

For on-going annual training staff may attend either a locally delivered training session or undertake the available online learning package at http://www.mckinleymed.co.uk/online-training/.

5.2 Staff who train and assess competency in the use of the ambulatory syringe pump must:

- Have attended and completed the CME Medical T34 training session.
- Be a qualified health care professional who is competent in this skill.
- Have a sound knowledge of relevant policies and procedures.
- Be identified by the line manager as an assessor / trainer.
- If using the Leicestershire Competency Assessment Tool (LCAT) the assessor must be an accredited and licensed LCAT assessor.

6.0 Equipment Required for Setting up the T34 Ambulatory Syringe Pump and Storage of the Device

It is recommended that all T34 ambulatory syringe pumps should be stored in a large container which has a label detailing the serial number of the device affixed to the outside.

All the items required to set up and operate the device should be placed within the End of Life Boxes so that the device is ready to be used as required without delay as per current 'on call' guideline.

The record sheet should be kept detailing the whereabouts of the device at all times.
Once the device is no longer required staff present in the home are responsible for returning/restocking the device/End of Life boxes.

All staff should be aware that it is the responsibility of the person returning the device/container to check and restock it. This must not be delegated to another person.

Within the community setting **no** diluents or medications are to be stored with the devices as these **must** be prescribed and dispensed on an individual named patient basis.

7.0 Indications for the Use of a T34 Ambulatory Syringe Pump

The T34 Ambulatory Syringe Pump provides a continuous infusion seeking to achieve a steady plasma concentration of medicines required for palliative care and should therefore be considered as an option when the child or young person has any of the following symptoms and when oral administration is no longer beneficial;

- Persistent nausea and/or vomiting
- Dysphagia
- Mouth/throat/Oesophageal lesions
- Intestinal Obstruction
- Malabsorption of oral medication
- Unconscious and Semiconscious patients
- Profound weakness when patients are unable to swallow medication

The advantages of using an ambulatory syringe pump to deliver medication via SC or IV routes are as follows:

Note: the preferred route is SC, this also applies in those children and young people who already have IV access present such as a central line.

- Constant drug concentration levels
- Usually reloaded once in 24 hours
- No repeated injections
- Does not limit mobility
- Permits better control of nausea and vomiting
- Control of multiple symptoms with a combination of drugs

8.0 Procedure

8.1 Pre-Procedure

Prior to setting up a T34 Ambulatory Syringe Pump the child or young person and/or family/carer as appropriate should be given a clear explanation of the reasons for using the device.

Where appropriate a copy of the leaflet 'reasons for the use of the T34 ambulatory syringe pump' should be provided (appendix 2).

Consent should be obtained and documented prior to commencing the procedure in accordance with consent policy.

Where a young persons (aged 18 years and above) capacity to consent is in doubt, a formal capacity assessment needs to be completed and thereafter a best interest's decision, involving appropriate professionals and involved persons needs to be made.

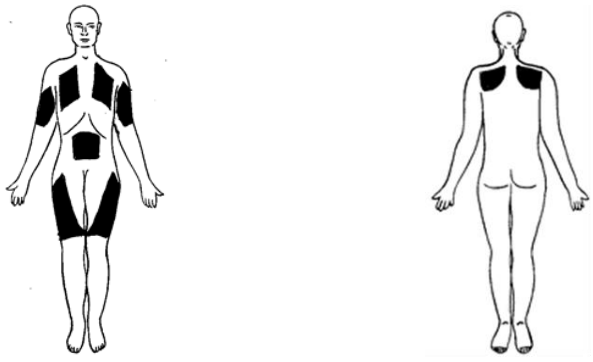
The use of a syringe driver should be discussed and views of child or young person recorded within the End of Life documentation. This can then be referred to within the care plan.
For further information please refer to the Consent Policy and the Mental Capacity Act (2005) or local accompanying organisational policy.

Consider if an immediate dose of medication is required as the 24 hour infusion will not take immediate effect.

8.2 Choice of Subcutaneous Infusion Site

Acceptable subcutaneous cannula insertion sites are as follows (see diagram below);

- **Anterior aspect of thigh** (preferred site for children and young people)
- **Anterior aspect of the upper arms** (preferred site for children and young people)
- Anterior abdominal wall
- The scapular if the patient is distressed and /or agitated
- Anterior chest wall (least common)



Sites not suitable for insertion for reasons of poor absorption, discomfort, increased risk of displacement:

• Skin folds and breast tissue
• Directly over a tumour site
• Lymphoedematous limb or oedema
• The abdominal wall if ascites is present
• Bony prominences
• Previously irradiated skin
• Sites near a joint

• Infected, broken or bruised skin

The site need not be changed for up to 72 hours, or longer if the site is viable (sites may last for 7 days or longer).
If a local reaction occurs, the cannula must be re-sited using a fresh cannula and administration set. It may be necessary to record this site on a body map, if the reaction is significant. If this reoccurs, consider further diluting the drug(s).

8.3 Setting up the T34 Ambulatory Syringe Pump Lock On (Load and Prime Line)

All T34 Ambulatory Syringe Pumps are to be pre-set for automatic 24 hour delivery and prepared in the following manner;

Action
Collect T34 Ambulatory Syringe Pump from storage location and complete logbook accordingly. Ensure that T34 lock box and End of Life boxes have been cleaned and restocked prior to leaving storage location.
Wash hands with liquid soap and dry with paper towels. If there are unsuitable washing facilities use hand rub solution.
Check that the pump and accessories are clean, visually intact and in working order.
Ensure there is an authorisation for the administration of medicines and that it is clear and complete.
Confirm child or young persons identity and consent to treatment.
Confirm previous opioid dose, formulation and frequency. Ensure that the medicines prescribed and doses are clinically appropriate based on the child or young persons previous requirements (NPSA 2008).
Where more than one drug is prescribed to be administered via an ambulatory syringe pump, the compatibility of drugs chart (appendix 1) should be checked for SC medication. For IV medication or when SC drugs are prescribed outside of this or for any concerns with regards to the prescribed medication specialist advice should be sought from; Ward 27 LRI UHL, Senior Medical Staff (oncology) 0116 2585959 Rainbows Hospice 01509 230800 UHL Children's Pharmacists via switchboard, 0300 303 1573 Child's own GP, Consultant paediatrician and or Annette Shawcross in FYPC. Additional information for SC drugs can be found at; www.act.org.uk (Basic Symptom Control in Paediatric Palliative Care). If specialist advice is sought this must be documented by both parties.

Ensure that the name and strength of the medicine on the pharmacy label and package matches that on the authorisation.
Ensure that the name and strength on the medication strip/ampoules (inside the box) matches the authorisation.
Check that the name of the child or young person matches that on the authorisation.
Check the expiry date of medication and diluents to be used.
Correctly draw up the prescribed medication and diluents and make up to either the standard recommended amount of **17mls in a 20ml** luer lock syringe or if required **22mls in a 30ml** luer lock syringe as advocated by CME Medical UK Ltd. If alternative volumes are required to meet the unique needs of the child or young person particular attention needs to be given when checking the flow rate. **Note:** **Maximum volume for a 20ml syringe = 18mls.** **Maximum volume for a 30ml syringe = 23.5mls.** When drawing up, take care to distinguish between high (e.g 30mg) and low strength opioid ampoules (NPSA 2008).
Attach T34 extension line with clamp.
Attach correctly completed infusion label to the syringe, wrapping label flat around syringe taking care not to obscure the markings (**the label must not be folded as this raises the barrel of the syringe in the devise and affects syringe identification**).
Insert the battery and check that it fits tightly within the battery housing.
Before switching device on ensure barrel clamp arm is down and no syringe in place.
Press and hold down the **ON/OFF** key the device will activate.
Observe pre-loading (automatic actuator movement) and check pump settings on display screens during pre-loading then wait until "**load syringe**" screen displays.
Check battery level by pressing **INFO** **YES** wait a few seconds for "**load syringe**" screen to reappear.
It is recommended that within the home setting that **40%** battery power should be remaining when commencing the infusion to be certain that the necessary power is available to complete the 24 hour infusion.
Align syringe to fitting area and use **◄◄ FF** **►►Back** keys to adjust if necessary so that the syringe will fit.
Lift and twist barrel arm clamp and insert syringe into 3 sensor areas.

Return barrel clamp arm to the down position to secure on top of syringe.
Check syringe displayed on screen matches the brand being used (change if necessary using the ▲/▼), press **YES** to confirm correct brand. If no syringe brand and size displays readjust syringe in the sensors.
Once the device has calculated the infusion rate **remove the syringe from the device** and attach the appropriate giving set (depending on delivery route SC or IV) to the, loaded syringe. Attach a CME Medical 100-172S set non DEHP, latex free, w/anti-siphone anti-reflux valve, female leur lock' line (FKA 351).
Manually prime the line by depressing the plunger on the syringe.
Check the solution for clouding or crystallisation. If this occurs do not use and check with the pharmacist regarding compatibility of drugs. UHL Children's Pharmacists via switchboard, 0300 303 1573
Return syringe to fitting area as above using ◄◄ **FF** ►►**Back** keys to adjust if necessary so that the syringe will fit correctly.
ENSURE that the data on the summary screen matches the prescription if correct press **YES** key to confirm acceptance.
Attach syringe to SC / IV access.
Press **YES** key to start infusion.
To activate Keypad lock press and hold **INFO** key until the graphic fills left to right (OFF to ON) and an audible beep is heard.
In the community setting the device must be placed in the available lockable box and locked.
The syringe pump should be placed securely near to them in the clear plastic locked box and carrying case, avoiding exposure to heat and moisture. (Twycross and Wilcock 2007). When repositioning take care to avoid accidental removal of line.
Dispose of all waste in accordance with local policy.
Wash hands with liquid soap and dry with paper towels or use hand rub solution.
Complete the appropriate documentation, ensuring that the batch number and expiry dates of all needles, lines, medication and diluents used are recorded.
Prior to leaving the child or young person the syringe pump must be checked to ensure that it is running correctly. For infusions via central lines parents must be advised whenever they are asked to stop infusions that the line must be clamped!

Ensure that the contact numbers for the appropriate services are given to the family. If the predicted finish time of the syringe pump is after 17.00 hrs and before 09.00 hrs this will necessitate the syringe being loaded twice during the current shift.

8.4 Temporary Interruption of Infusion (e.g. for showering)

Action
Wash hands with liquid soap and dry with paper towels. If there are unsuitable washing facilities use hand rub solution.
To unlock keypad press and hold the **INFO** key down until the black graphic moves from right (ON) to left (OFF). A beep is heard, confirming that the lock has been deactivated.
Press the **STOP** key
Press and hold the **ON/OFF** key until a beep is heard. The screen will go blank.
DO NOT REMOVE THE SYRINGE FROM THE DEVICE
Disconnect the line from the syringe and cap the end of the line and the syringe tip.
Document the amount remaining in the syringe and the time the infusion is interrupted for. To allow safety checks prior to re starting infusion.

8.5 Resuming an Infusion following an interruption

Action
Wash hands with liquid soap and dry with paper towels. If there are unsuitable washing facilities use hand rub solution.
Ensure that the authorisation/drug chart, syringe label and child or young person details match, to ensure that this is the correct syringe.
Reconnect the line to the syringe on the device.
Press and hold the **ON/OFF** key until a beep is heard. The syringe will request confirmation of syringe size and brand.
Press the YES key to resume. The screen will display remaining volume, duration and the rate of infusion. Press the **YES** key to confirm.
To reactivate Keypad lock press and hold **INFO** key until the graphic fills left to right (OFF to ON) and an audible beep is heard.

8.6 Completion of Infusion and Reloading of Syringe

Action
As the pump approaches the end of the infusion it will commence intermittent alarming both audibly and visually every three minutes for the 15 minutes prior to completion of the infusion.
Wash hands with liquid soap and dry with paper towels. If there are unsuitable washing facilities use hand rub solution.
Check that the pump and accessories are clean, visually intact and in working order.
Ensure there is an authorisation for the administration of medicines and that it is clear and complete. If a drug or dose of drug is changed a new syringe should be prepared and a new infusion line attached.
Confirm the identity of the child or young person and consent to treatment.
Confirm previous opioid dose, formulation and frequency. Ensure that the medicines prescribed and doses are clinically appropriate based on their previous requirements (NPSA 2008) (appendix 1).
Where more than one drug is prescribed to be administered via an ambulatory syringe pump, the compatibility of drugs chart (appendix 1) should be checked for SC medication. For IV medication or when SC drugs are prescribed outside of this or for any concerns with regards to the prescribed medication specialist advice should be sought from; Ward 27 LRI UHL, Senior Medical Staff (oncology) 0116 2585959 Rainbows Hospice 01509 230800 UHL Children's Pharmacists via switchboard, 0300 303 1573 Child's own GP Additional information for SC drugs can be found at; www.act.org.uk (Basic Symptom Control in Paediatric Palliative Care). If specialist advice is sought this must be documented by both parties.
Ensure that the name and strength of the medicine on the pharmacy label and package matches that on the authorisation.
Ensure that the name and strength on the medication strip/ampoules (inside the box) matches the authorisation.
Check that the name on the child or young person matches that on the authorisation.
Check the expiry date of medication and diluents to be used.

Correctly draw up the prescribed medication and diluents and make up to either the standard recommended amount of **17mls in a 20ml** luer lock syringe or if required **22**mls in a **30**ml luer lock syringe as advocated by CME Medical UK Ltd. If alternative volumes are required to meet the unique needs of the child or young person particular attention needs to be given when checking the flow rate. **Note:** **Maximum volume for a 20ml syringe = 18mls.** **Maximum volume for a 30ml syringe = 23.5mls.** When drawing up, take care to distinguish between high (e.g 30mg) and low strength opioid ampoules (NPSA 2008).
Attach correctly completed infusion label to the syringe, wrapping label flat around syringe taking care not to obscure the markings (**the label must not be folded as this raises the barrel of the syringe in the devise and affects syringe identification**).
To unlock keypad press and hold the **INFO** key down until the black graphic moves from right (ON) to left (OFF). A beep is heard, confirming that the lock has been deactivated.
Switch off device by pressing and holding ON/OFF key.
Remove device from locked plastic box or equivalent.
Disconnect line from syringe.
Remove completed syringe from device and discard in accordance with organisational policy. If the infusion is to be stopped before the syringe is empty, the syringe pump should be disconnected from the child or young person at the syringe end before the syringe is removed from the device. If a syringe driver is discontinued and medicines, including controlled drugs, remain in the syringe and line, the unused contents must be denatured and disposed of according to the Controlled Drugs Policy and Leicestershire Medicines Code. The empty syringe should then be put into the sharps bin. **Managing Controlled Drugs in Community – Standard Operating Procedure (Version 8)** **A Syringe that is not empty can only be removed from the T34 if the line is effectively clamped while connected to the child or young person.**
Before you switch device back on **ensure barrel clamp arm is down and no syringe in place**.
Press and hold down the **ON/OFF** key the device will activate.
Observe pre-loading (automatic actuator movement) and check pump settings

on display screens during pre-loading then wait until "**load syringe**" screen displays.
Check battery level by pressing **INFO** **YES** wait a few seconds for "**load syringe**" screen to reappear.
It is recommended that within the home setting that **40%** battery power should be remaining when commencing the infusion to be certain that the necessary power is available to complete the 24 hour infusion.
Align syringe to fitting area and use **◄◄ FF** **►►Back** keys to adjust if necessary so that the syringe will fit.
Lift and twist barrel arm clamp and insert syringe into 3 sensor areas.
Return barrel clamp arm to the down position to secure on top of syringe.
Check syringe displayed on screen matches the brand being used (change if necessary using the **▲**/**▼**), press **YES** to confirm correct brand. If no syringe brand and size displays readjust syringe in the sensors.
Check the solution for clouding or crystallisation. If this occurs do not use and check with the pharmacist regarding compatibility of drugs. UHL Children's Pharmacists via switchboard, 0300 303 1573
Attach line to syringe.
ENSURE that the data on the summary screen matches the prescription if correct press **YES** key to confirm acceptance.
Press **YES** key to start infusion.
To reactivate Keypad lock press and hold **INFO** key until the graphic fills left to right (OFF to ON) and an audible beep is heard.
In the community setting the device must be placed in the available lockable box and locked.
The syringe pump should be placed securely near to them in the clear plastic locked box and carrying case where available, avoiding exposure to heat and moisture. (Twycross and Wilcock 2007). When repositioning take care to avoid accidental removal of line.
Wash hands with liquid soap and dry with paper towels or use hand rub solution.
Complete the appropriate documentation, ensuring that the batch number and expiry dates of all needles, lines, medication and diluents used are recorded.
Prior to leaving the child or young person the syringe pump should be checked that it is running correctly.

8.7 Stopping the Infusion and Removing the T34 Ambulatory Syringe Pump

Action
Wash hands with liquid soap and dry with paper towels. If there are unsuitable washing facilities use hand rub solution.
To unlock keypad press and hold the **INFO** key down until the black graphic moves from right (ON) to left (OFF). A beep is heard, confirming that the lock has been deactivated.
Press the **STOP** key
Press the **INFO** key and document the date, time and amount of solution remaining to be infused in the syringe (in ml's).
If there are any concerns about the circumstances of the death, leave the syringe pump in place and contact your 'manager' or equivalent for advice.
The device should not be removed unless verification or certification of death has been completed by a qualified healthcare professional.
Remove device from locked plastic box or equivalent.
Remove the syringe from the syringe pump. If a syringe driver is discontinued and medicines, including controlled drugs, remain in the syringe and line, the unused contents must be denatured and disposed of according to the Controlled Drugs Policy and Leicestershire Medicines Code. The empty syringe should then be put into the sharps bin. **Managing Controlled Drugs in Community – Standard Operating Procedure (Version 8)**
Remove the needle/cannula.
Remove the battery from the device.
Complete all appropriate organisational documentation.
Return the device to the appropriate place for cleaning, restocking and storage.

8.8 What to do if the child or young person Dies Whilst the T34 Ambulatory Syringe Pump is in Situ

Action
Wash hands with liquid soap and dry with paper towels. If there are unsuitable washing facilities use hand rub solution.
To unlock keypad press and hold the **INFO** key down until the black graphic moves from right (ON) to left (OFF). A beep is heard, confirming that the lock has been deactivated.

Press the **STOP** key
Press the **INFO** key and document the date, time and amount of solution remaining to be infused in the syringe (in ml's).
If there are any concerns about the circumstances of the death, leave the syringe pump in place and contact your 'manager' or equivalent for advice.
The device should not be removed unless verification or certification of death has been completed by a qualified healthcare professional.
Remove device from locked plastic box or equivalent.
Remove the syringe from the syringe pump. If a syringe driver is discontinued and medicines, including controlled drugs, remain in the syringe and line, the unused contents must be denatured and disposed of according to the Controlled Drugs Policy and Leicestershire Medicines Code. The empty syringe should then be put into the sharps bin. **Managing Controlled Drugs in Community – Standard Operating Procedure (Version 8)**
Remove the needle/cannula.
Remove the battery from the device.
Complete all appropriate organisational documentation.
Return the device to the appropriate place for cleaning, restocking and storage.

9.0 Monitoring the T34 Ambulatory Syringe Pump Whilst in Use

Community Setting
In the community setting the syringe pump must be monitored using the Care Plan at each visit by a qualified health care professional.

10.0 Management of PRN Medication

PRN/rescue doses of medication must always be prescribed. To prevent repeated injections insert a S/C needle.

The child or young person should be monitored for poor symptom control and action taken where indicated.

11.0 Trouble Shooting:

Too fast (i.e. running more than 1 hour ahead of expected time):

- Change the entire T34 ambulatory syringe pump for a new one and send the original device for servicing.

If the infusion is running too slow (i.e. running more than 1 hour behind the expected time);

- Check the infusion light status indicator is **green** and flashing.
- Check the battery level and that the battery is fitting correctly in the battery housing.
- Check the syringe is inserted correctly onto the device.
- Ascertain if the device has been stopped and restarted for any reason.
- Check the contents of the syringe and line. Is there any evidence of crystallisation or kinking of the tubing?
- Check the needle site. Is this red/hard/lumpy/sore?
- Consider changing the site or further dilution of the drugs to minimise irritation by setting up a fresh syringe.
- Consider metal allergy from the needle – replace line with non-metallic hypoallergenic cannula.

- If there are persistent problems with the site please Ward 27 LRI UHL, Senior Medical Staff (oncology) 0116 258 5959. Rainbows Hospice 01509 230800. UHL Children's Pharmacists via switchboard, 0300 303 1573 or Child's own GP. Check online at www.act.org.uk (Basic Symptom Control in Paediatric Palliative Care).

- If the infusion continues to run through too slowly, change the entire T34 ambulatory syringe pump for a new one and send the original device for servicing.

Continued…

T34 Ambulatory Syringe Pump Alarm Conditions

When the pump detects a problem four things occur:

1. The infusion stops
2. An audible alarm is activated
3. A message appears on the display screen indicating the cause of the alarm
4. The LED indicator turns RED

The alarm will sound for the following reasons:

LCD Display	Alarm type	Possible cause	Action
Occlusion or Syringe Empty	Audible and visual alarm	Patient cannula / line blocked, kinked. Occlusion Infusion has finished	Press YES to silence alarm Remove occlusion and restart If two occlusions occur change cannula as per policy. if access is IV flush according to policy and recommence infusion. End of program, switch pump off
Syringe Displaced	Audible and visual alarm Intermittent beep – the alarm is insistent	Syringe has been removed or displaced	Check and confirm syringe is seated correctly and resume infusion Syringes need to be in the vertical position at all times
Pump paused too long	Audible and visual alarm Intermittent beep	Pump left or no key presses detected for 2 minutes	Start infusion, continue programming or switch off
Near end	Audible and visual alarm Intermittent beep 3 beeps/3 mins silence	15 minutes from end of infusion	Prepare to change syringe or switch off
End program	Audible and visual alarm Intermittent beep	Infusion complete	Pump will alarm. Press YES to confirm end of program and OFF to switch pump off
Low battery	Audible and visual alarm 2 beeps 3 mins silence	Battery is almost depleted (30 minutes left)	Prepare to change battery and resume infusion
End battery	Audible and visual alarm	Battery is depleted	Change battery and resume infusion

12.0 Cleaning and Decontamination

Cleansing of the device should be carried out with a damp disposable cloth (use warm water and general detergent). Dry thoroughly. If any additional cleansing is needed contact organisational infection control advisors for advice.

The T34 Ambulatory Syringe Pump must not be submerged in water and if accidently dropped in water, must be withdrawn from use immediately and returned to organisational medical physics department.

13.0 Drug Errors, Near Misses or Equipment Failure

The policy should be read in conjunction with individual organisational 'Medication Error Policy'. In the event of a drug error, or a near miss or where a piece of equipment may have failed, it is essential where appropriate to inform the manager and complete the recognised organisational incident reporting form.

In the event of an adverse patient outcome, or suspected adverse outcome, this must be reported immediately to the line manager to escalate and to the Patient Safety Coordinator or equivalent.

14.0 Audit

Staff knowledge about the use of the device will be audited on a regular basis any deficit in knowledge will be followed up with individual staff members.
A review of the use of the T34 will occur after each use as part of the De-Brief Process this will; ensure that due process was followed, no incidents occurred and no concerns raised by staff.
Incidents involving the use of T34 ambulatory syringe pumps will be audited in accordance with organisational requirements.

7.0. Monitoring Compliance and Effectiveness

Ref	Minimum Requirements	Evidence for Self-assessment	Process for Monitoring	Responsible Individual / Group	Frequency of monitoring
5.0	Staff Training.		Individual staff and service training compliance.	Diana Clinical Team Leader.	Quarterly.
14.0	Staff Knowledge and adherence to Policy.		Audit.	CASER.	
12.0 14.0	Incident Monitoring.		De-Brief Process. Diana Clinical	Palliative Care Lead. Senior Nurse.	Quarterly. Monthly.

Ref	Minimum Requirements	Evidence for Self-assessment	Process for Monitoring	Responsible Individual / Group	Frequency of monitoring
			Meeting Agenda.		

15.0 CQC Standards.

TARGET/STANDARDS	KEY PERFORMANCE INDICATOR
Safe	Annual training records of staff in service. Audit outcomes. Incident monitoring.
Effective	Complaints and compliments monitoring
Caring	Friends and Family test
Well led	Adherence to current IPCC policies and procedures Adherence to medication policies Adherence to SOP for End Of Life that includes assessment of home environment and parent competence. Adherence to equipment policies and procedures

16.0 References and Bibliography

This policy was drafted with reference to the following:

House of Lords (2005) Mental Capacity Act. London: The Stationery Office Limited

National Patient Safety Agency (2010) Safer Ambulatory Syringe Drivers (NPSA/2010/RRR019). London: National Patient Safety Agency

National Patient Safety Agency (2008) Reducing Dosing Errors with Opioid Medicines (NPSA/2008/RRR05). London: National Patient Safety Agency

Nursing and Midwifery Council (NMC) (2015) The Code. London: NMC

MDA 1016-002. Ambulatory syringe pumps (T34 and T60) and syringe extension sets used with the T34 pump, manufactured by Caesarea Medical Electronics

(CME).

MDA 2018-010. All T34 ambulatory syringe pumps – risk of unintended pump shutdown and delay to treatment

Twycross R, Wilcock A et al (3rd Edition 2007) Palliative Care Formulary. Oxford: Radcliffe Medical Press

Brook L, VJ., Osborne C., 2007. J Child Neurology, **2007**. 22(5): p. 530).

Medication Error Policy

Managing Controlled Drugs in Community – Standard Operating Procedure

Patient Identity Policy

Gosport War Memorial Hospital. The Report of the Gosport Independent Panel.Open Government Licence. June 2018.

Appendix 1

Subcutaneous infusion drug compatibility

Evidence suggests that during end of life care in children, where the enteral route is no longer available, the majority of symptoms can be controlled by a combination of six “essential drugs” (Brook L, VJ., Osborne C., 2007), Compatibility for these six drugs is given in the table below (Twycross R, W.A, 2007).

Syringe Driver compatibility for two drugs in water for injection.

KEY:

+ Compatible in water for injection at all usual concentrations.

A+ Laboratory data: physically and chemically compatible but crystallisation may occur as concentration of either drug increases.

- Combination not recommended; drugs of similar classes.

? No drug data

diamorphine	morphine sulphate	midazolam	cyclizine	haloperidol	levomepromazine	hyoscine hydrobromide
-						
+	+					
A+	+	+				
A+	+	+	+			
+	?	+	-	-		
+	+	+	?	?	?	

Reproduced from ACT, Basic Symptom Control in Paediatric Palliative Care, Eighth Edition 2011.

Appendix 2

What is a McKinley T34 syringe pump?

This is a small, portable pump which is battery operated. It allows medicines to be given steadily under the skin over a 24 hour period.

Why do I need one?

The syringe pump is an alternative way of delivering medicines to control your symptoms. This may be for pain, controlling sickness, or for medicines to help you relax. It may be needed if:

- you are having difficulty swallowing medicines
- you are being sick
- your symptoms need more control.

The reasons will be explained to you by your nurse. A syringe pump may be used at any stage of your illness to control your symptoms.

How does it work?

Your nurse will insert a small needle or plastic tube under your skin. This will be connected to a syringe containing your medicines by a piece of tubing. The syringe is secured to the syringe pump and placed into a protective outer case. The syringe pump gradually pushes the syringe plunger to deliver the drugs over 24 hours. Your nurse will change the syringe every 24 hours. The needle/plastic tube will be secured with a clear dressing and usually only needs changing every few days.

How do I know if the syringe pump is working properly?

- The person providing your syringe pump will have checked it is working before setting it up.
- A small light above the 'ON/OFF' button will flash green regularly. If it turns red, there is a problem with the pump and you should contact the nurse as soon as possible.
- Your nurse will discuss with you what to do if the alarm sounds.

Who will look after it?

- Your nurse will check regularly that the pump is operating correctly, that you are receiving the medication prescribed and that the needle/tube is comfortable.
- They will also show you some simple checks to make sure things are working properly.

What do I do if the alarm sounds?

- The most important thing is not to worry. It will silence itself after a short time.
- Contact your nurse immediately, who will be able to advise on what to do. Please do not try to do anything yourself without speaking with your nurse.

✓ Some Do's

- When you are walking around, carry the pump using the carry case provided or a small bag
- When you are in bed or resting in a chair, the pump can be put on a flat surface next to you
- You should keep the pump and cannular site dry
- Try to keep mobile phones that are switched on about an arms length away, as they may affect the way the pump works

✗ Some Don'ts

- Do not interfere with the syringe pump
- Do not get the pump or needle site wet
- Do not drop it
- Do not expose to heat or bright sunlight

Appendix 3

Medical Devices Self-assessment Statement
T34 Ambulatory Syringe Pump

Device Name (Make and Model): CME Medical T34 Ambulatory Syringe Pump

Name -	Job title -
Line Manager -	Base -

Responsibility for use of any medical device remains with the user. If you are in any doubt regarding your ability and knowledge around specific medical devices you should seek further advice from your line manager.

You must be able to answer yes to all the questions or have an action plan to achieve this. Once you have done your action plan you must repeat the self-assessment.

	Questions to ask yourself	**Annual Assessment**	**Comments**
1.	Do I know what this device is intended for as stated in the manufacturer's manual/user instructions?	Yes/No	
2.	Have I read and understood the guidelines/policy for this device	Yes/No	
3.	Have I read and understood other policies/guidelines that you need to consider when using this device e.g. infection control, moving and handling	Yes/No	
4.	Can I state any contraindications and precautions for use of this medical device	Yes/No	Please state
5.	Can I identify relevant accessories, single use items , other equipment etc. which may be required with this device for individual service users	Yes/No/NA	
6.	Do I know how to set up/fit this device to the service user?	Yes/No/NA	
7.	Can I undertake a basic visual safety check with this device before every use?	Yes/No	
8.	Do I know what could go wrong with this device?	Yes/No	
9.	Do I know what to do if you find the device faulty	Yes/No	
10.	Do I know when to get further advice e.g. colleague, specialist, expert, company .	Yes/No	
11.	Can I state how often this device should be serviced and how to check if this has been done?	Yes/No/NA	Please state

Having answered YES to the above questions and taken into account my personal assessment of my competence with this device

I feel competent use this device YES/NO

I feel competent to demonstrate this device? YES/NO

I feel competent to use this device within my working environment? YES/NO

If staff are unable to use/demonstrate or require further training on any equipment on this document please complete the action plan below.

Action Plan (Please use additional pages as required)

Issue Requiring Action	Action\Plan	Review Date

Signature…….Date …….

Line Manager…….Date……..

Appendix 4

Process for monitoring Compliance and Effectiveness - LPT

Minimum Requirements	Self assessment evidence	Process for Monitoring	Responsible Individual /Group	Frequency of monitoring
Ensure that staff are competent to manage symptoms using the T34 syringe driver as described in appendix 8.	Sections 4.5 & 5	Review of clinicians during annual appraisal	Line Managers	Annual
Review of incidents/ complaints to where a T34 syringe driver has been used.	Section 9.0	Collection of data via safeguard system. Divisional Patient Safety to review who will manage and feed to Clinical Effectiveness group.	By exception reporting to the Clinical Effectiveness Group	Monthly

Appendix 5

Training Requirements

Training Needs Analysis

Training Required	YES ✓	NO
Training topic:	T34 Ambulatory Syringe Driver	
Type of training: (see study leave policy)	☐ Mandatory (must be on mandatory training register) ✓ Role specific ☐ Personal development	
Division(s) to which the training is applicable:	☐ Adult Mental Health & Learning Disability Services ☐ Community Health Services ☐ Enabling Services ✓ Families Young People Children ☐ Hosted Services	
Staff groups who require the training:	*Please specify…* *Diana Registered Nurses*	
Regularity of Update requirement:	Annually	
Who is responsible for delivery of this training?	Cascade trainers in Service	
Have resources been identified?	Yes	
Has a training plan been agreed?	Yes	
Where will completion of this training be recorded?	☐ ULearn ✓ Other (please specify) CTL training folder	
How is this training going to be monitored?	By CTL with support from operational team leaders	

Appendix 6

The NHS Constitution

The NHS will provide a universal service for all based on clinical need, not ability to pay. The NHS will provide a comprehensive range of services

Shape its services around the needs and preferences of individual patients, their families and their carers	✓
Respond to different needs of different sectors of the population	✓
Work continuously to improve quality services and to minimise errors	✓
Support and value its staff	✓
Work together with others to ensure a seamless service for patients	✓
Help keep people healthy and work to reduce health inequalities	✓
Respect the confidentiality of individual patients and provide open access to information about services, treatment and performance	✓

Appendix 7

Stakeholders and Consultation

The policy was originally developed alongside adult service colleagues and Rainbows Children's Hospice.

Contribution List

The original key individuals involved in developing the adult document

Name	Designation
Jo Beeching	Hospice at Home (NHS Leicestershire Partnership Trust)
Chris Birtwisle	Advancing Practice Team Sister (LOROS)
Mark Millar	Clinical Education Lead (NHS Leicestershire Partnership Trust)
Marina Moretta	Hospice at Home (NHS Leicestershire Partnership Trust)

The original key individuals involved in developing the children's document

Name	Designation
Corinne Hutton	Clinical Team Leader Diana Services
Julie Potts	Diana Nurse
Katie Willetts	Senior Nurse FYPC

The version for Children and Young People was developed from the adult version that was circulated originally to the following individuals for comments:

Name	**Designation**
Kate Baxter	Head Adult Safeguarding NHS LLR (County)
Eileen MacLean	Adult Safeguarding Nurse, LPT
Dr. P. Randev	General Practitioner, Measham Medical Practice
Tejas Khatau	Medicines Management Pharmacist, LPT
Michelle East	Quality Monitoring Manager - Care Home, LCRPCT
Shelley Jacques	Clinical Governance Operations Lead (Adults), LPT
Louise Carpenter	Clinical Governance Lead, LPT
Brigitte Thomas	Pharmacist, LOROS
Stacey Kerslake	Macmillan Specialist Sister, UHL
Maria Hall	SPIRE, Leicester
Corinne Hutton	Diana Childrens Nurse, LPT
Diane Postle	Head of Nursing Primary Care (County), LPT
Dr Luke Feathers	Consultant in Palliative Medicine, LOROS

Dr Christina Faull	Consultant in Palliative Medicine, LOROS
Jo Bale	Professional Lead, LPT
Jayne Talman	Professional Lead, LPT
Jackie Mitchell	Professional Lead, LPT
Tammy Bale	Matron Infection Prevention and Control, LPT
Carole Robson	Head of Healthcare, HM Prisons, Glen Parva Prison
Alison Hunter	HM Prisons, Stocken
Sarah Le Butt	HM Prisons, Gartree
David Chantry	HM Prisons, Leicester
Jeanne Hignett	Prison Clinical Governance Lead, LCRPCT
Jane Lee	Palliative Care Team Manager/ICP Lead, UHL
Jane Schofield	Supportive and Palliative Service Improvement Facilitator, LCPCT
Tracy Yole	Head of Nursing (Community Hospitals), LPT

Key individuals involved in developing this document

Name	Designation
Corinne Hutton	Clinical Team Leader Diana Services
Katie Willetts	Senior Nurse FYPC

Circulated to the following individuals for comment

Name	Designation
Julie Potts	Diana Nurse
Marie Butterworth	Diana Team Leader
Jo Wilson	Lead Nurse FYPC.

Appendix 8

Due Regard Screening Template

Section 1	
Name of activity/proposal	The purpose of this policy is to; - Promote procedural uniformity and assist practitioners when using the T34 Ambulatory Syringe Pump. - Ensure safe and accountable practice when providing symptom relief for those children and young people where a T34 Ambulatory Syringe Pump is the preferred method of the administration of prescribed medicines. - Clarify roles and responsibilities.
Date Screening commenced	June 2018
Directorate / Service carrying out the assessment	FYPC Diana Children's Community Service.
Name and role of person undertaking this Due Regard (Equality Analysis)	Katie Willetts Senior Nurse.
Give an overview of the aims, objectives and purpose of the proposal:	
AIMS: This is an updated version of a policy ratified in 2011. It provides a framework for the T34 Ambulatory Syringe Pump within LPT for Children and Young People. The original policy was written in response to a NPSA alert (NPSA/2010/RRR019) to ensure safer administration of symptom control in palliative care. It provides procedures to inform practitioners to use T34 Ambulatory Syringe Pump; outlined roles and responsibility as well as training requirements, plus indications for use.	
OBJECTIVES: - Promote procedural uniformity and assist practitioners when using the T34 Ambulatory Syringe Pump. - Ensure safe and accountable practice when providing symptom relief for those children and young people where a T34 Ambulatory Syringe Pump is the preferred method of the administration of prescribed medicines. - Clarify roles and responsibilities.	

Section 2	
Protected Characteristic	**If the proposal/s have a positive or negative impact please give brief details**
Age	NO
Disability	NO
Gender reassignment	NO
Marriage & Civil Partnership	NO
Pregnancy & Maternity	NO
Race	NO

Religion and Belief	NO
Sex	NO
Sexual Orientation	NO
Other equality groups?	NO

Section 3

Does this activity propose major changes in terms of scale or significance for LPT? For example, is there a clear indication that, although the proposal is minor it is likely to have a major affect for people from an equality group/s? Please tick appropriate box below.

Yes		No	
High risk: Complete a full EIA starting click here to proceed to Part B		Low risk: Go to Section 4.	**yes**

Section 4

If this proposal is low risk please give evidence or justification for how you reached this decision:

The policy is to guide staff in the safe use of a piece of equipment T34 used at End of Life. The service provides a service at End of Life to all children and young people across LLR, There are no positive or negative impacts on the protected characteristics.

Signed by reviewer/assessor		**Date**	22/06/18
Sign off that this proposal is low risk and does not require a full Equality Analysis			
Head of Service Signed		**Date**	

Appendix 9

DATA PRIVACY IMPACT ASSESSMENT SCREENING

Data Privacy impact assessment (DPIAs) are a tool which can help organisations identify the most effective way to comply with their data protection obligations and meet Individual's expectations of privacy. **The following screening questions will help the Trust determine if there are any privacy issues associated with the implementation of the Policy. Answering 'yes' to any of these questions is an indication that a DPIA may be a useful exercise. An explanation for the answers will assist with the determination as to whether a full DPIA is required which will require senior management support, at this stage the Head of Data Privacy must be involved.**			
Name of Document:	Policy for the Use of the T34 Ambulatory Syringe Driver for Children and Young People in the Community, receiving Palliative Care in Leicester, Leicestershire and Rutland.		
Completed by:	Katie Willetts		
Job title	Senior Nurse		**Date** 15/08/18
Screening Questions		**Yes / No**	**Explanatory Note**
1. Will the process described in the document involve the collection of new information about individuals? This is information in excess of what is required to carry out the process described within the document.		No	This is a policy to direct clinical procedure. This is an update to an existing policy and is already custom and practice.
2. Will the process described in the document compel individuals to provide information about them? This is information in excess of what is required to carry out the process described within the document.		No	This is a policy to direct clinical procedure. This is an update to an existing policy and is already custom and practice.
3. Will information about individuals be disclosed to organisations or people who have not previously had routine access to the information as part of the process described in this document?		No	This is a policy to direct clinical procedure. This is an update to an existing policy and is already custom and practice.
4. Are you using information about individuals for a purpose it is not currently used for, or in a way it is not currently used?		No	This is a policy to direct clinical procedure. This is an update to an existing policy and is already custom and practice.
5. Does the process outlined in this document involve the use of new technology which might be perceived as being privacy intrusive? For example, the use of biometrics.		No	This is a policy to direct clinical procedure. This is an update to an existing policy and is already custom and practice.
6. Will the process outlined in this document result in decisions being made or action taken against individuals in ways which can have a significant impact on them?		No	This is a policy to direct clinical procedure. This is an update to an existing policy and is already custom and practice.
7. As part of the process outlined in this document, is the information about individuals of a kind particularly likely to raise privacy concerns or expectations? For examples, health records, criminal records or other information that people would consider to be particularly private.		No	This is a policy to direct clinical procedure. This is an update to an existing policy and is already custom and practice.
8. Will the process require you to contact individuals in ways which they may find intrusive?		No	This is a policy to direct clinical procedure. This is an update to an existing policy and is already custom

		and practice.
If the answer to any of these questions is 'Yes' please contact the Data Privacy Team via Lpt-dataprivacy@leicspart.secure.nhs.uk In this case, ratification of a procedural document will not take place until review by the Head of Data Privacy.		
Data Privacy approval name:		
Date of approval		

Acknowledgement: This is based on the work of Princess Alexandra Hospital NHS Trust