University Hospitals of Leicester NHS
NHS Trust

Policy for the Use of the Ambulatory T34 Syringe Driver in Adults Receiving Palliative and/or End of Life Care in the University Hospitals of Leicester NHS Trust

Approved By:	Policy & Guideline Committee
Date of Original Approval:	16 November 2018
Trust Reference:	B29/2018
Version:	3
Supersedes:	2 1 – November 2018 (which superseded E1/2013 Policy for the Use of the T34 Ambulatory Syringe Pump in Adult Patients in Palliative Care for Primary and Secondary Care in Leicester, Leicestershire and Rutland)
Trust Lead:	Dr Rosie Bronnert, Palliative Medicine Consultant and Head of Service in capacity as End of Life and Palliative Care Committee Member
Board Director Lead:	Andrew Furlong, Medical Director
Date of Latest Approval	2nd of May 2025 – Policy and Guideline Committee
Next Review Date:	**May 2025**

CONTENTS

REVIEW DATES AND DETAILS OF CHANGES MADE DURING THE REVIEW

This version represents a substantial rewrite of the previous policy 'Policy for the Use of the T34 Ambulatory Syringe Pump in Adult Patients in Palliative Care for Primary and Secondary Care in Leicester, Leicestershire and Rutland' (E1/2013
The policy is now specific to the University Hospitals of Leicester NHS Trust to ensure that it is clear, relevant and accountable within a hospital setting.
It includes updates from Medical Devices Alerts MDA/2016/002 and MDA/2018/010

CHANGES FROM PREVIOUS SYRINGE DRIVER POLICY B29/2018

A1.10 Revised set up to prime and load (section 3.5.3)
A1.11 Revised use of SAF-T needle for PRN use (section 4.6e)
A1.12 Revised to advise to ask Palliative care team or pharmacy if medication NOT clear in colour

KEY WORDS

Syringe Driver, Syringe pump, T34, Subcutaneous infusion, Palliative Care, End of life Care

1 INTRODUCTION AND OVERVIEW

1.1 This document sets out the University Hospitals of Leicester (UHL) NHS Trusts Policy for the Use of the Ambulatory T34 Syringe Driver in Adults Receiving Palliative and/or End of Life Care in the University Hospitals of Leicester NHS Trust

1.2 UHL has been using T34 version 2 since 2011 in response to the alert, 'Safer Ambulatory Syringe Drivers' (NSPA/2010/RR019). The T34 replaced all Graseby MS26 and MS16A Syringe Drivers. In 2020 UHL introduced the T34 version 3 to the Glenfield Hospital.

1.3 The T34 Syringe Driver is the only delivery device that should be used to deliver continuous subcutaneous infusions of medications to adult patients where the medications are part of their palliative and/ or end of life care.

2 POLICY SCOPE – WHO THE POLICY APPLIES TO AND ANY SPECIFICEXCLUSIONS

2.1 This policy applies to all members of staff working within the UHL who are involved in adult patient care which requires the use of a T34 syringe driver for palliative and/or end of life care medication. This includes all staff who request, track, use, maintain or deliver T34 syringe drivers within the University Hospitals of Leicester NHS Trust.

2.2 This policy only applies to adult patients receiving medication as part of their palliative or end of life care.

2.3 This policy does not apply to children or young people. The paediatric team should be contacted directly
for advice about a child or young person under 18.

3 DEFINITIONS AND ABBREVIATIONS

3.1 BNF is the British National Formulary, which is the UK pharmaceutical reference book

3.2 DNACPR means 'Do Not Attempt Cardio-Pulmonary Resuscitation.' In this situation, no attempt is made to try to restart the heart or breathing when somebody dies.

3.3. End of Life is defined by the General Medical Council and Department of Health (2009) as people who are likely to die in the next 12 months. This includes, but is not exclusive to, those people whose death is imminent.

3.4 LOROS is the local hospice which serves Leicester, Leicestershire and Rutland

3.5 LPT means Leicester Partnership NHS Trust, the local community NHS trust

3.6 Palliative refers to a treatment, intervention or approach which is aimed at support and comfort rather than cure

3.7 PRN is a Latin term that stands for 'pro re nata' which means 'as the thing is needed.' PRN medication is sometimes referred to as 'anticipatory medication.' There can be important differences between medication which is prescribed regularly and those that are prescribed prn. It is therefore important to be clear whether a medication is being prescribed and/ or administered regularly or as needed.

3.8 SC means subcutaneous e.g. SC infusion means subcutaneous infusion

3.9 UHL stands for University Hospitals of Leicester NHS Trust

4 ROLES – WHO DOES WHAT

4.1 Board Director Responsibility

Andrew Furlong, Medical Director has executive responsibility for this policy and is the person charged with notifying the Trust Board of any developments in this area, including those reported to the End of Life and Palliative Care Committee.

Non-Executive Director

4.2 The Non-Executive Director with responsibility for End of Life Care within UHL is responsible for raising any issues or concerns at Trust Board which they do not feel are being addressed by the Board Director with responsibility.

4.3 End of Life and Palliative Care Committee

The chair of the End of Life and Palliative Care Committee, along with members of the Committee and the End of Life Care Lead Clinician, will have responsibility for:

a) Monitoring compliance with this policy.

b) Review of this policy, including identifying an appropriate reviewer(s)

c) Consideration of education needs

d) Liaising with clinical staff including the Specialist Palliative Care Team, to develop an action plan if the number of available T34 syringe drivers is not sufficient for actual or projected demand.

4.4 Clinical Management Group (CMG) Directors and Heads of Nursing are responsible for:

- Making sure that all staff in their CMG are made aware of the policy and procedure how to access at T34 syringe driver
- Making sure that staff groups and individuals are given appropriate training to prescribe, set up, track and return a T34 syringe driver
- Managing the effectiveness of this policy through a robust system of reporting, investigating and recording incidents and report any concerns / issues to the CMG Quality and Safety Boards.
- Ensuring process are in place to undertake audits of compliance, results reviewed and actions taken to address any areas of non-compliance

Prescribers

a) Prescribers are responsible for undertaking a relevant clinical assessment to help inform their decision to prescribe a continuous subcutaneous infusion to manage the symptoms of an adult patient receiving palliative and/or end of life care via a T34 syringe driver.

b) The prescriber should prescribe separate subcutaneous injections for breakthrough symptoms which can be given if needed (prn). Policy for the Use of the Ambulatory T34

Syringe Driver in Adults Receiving Palliative and/or End of Life Care in the University Hospitals of Leicester NHS Trust Page 5 of 31 Version 2 approved by Policy & Guideline Committee 6 May 2022 Trust ref: B29/2018 next review: May 2025 NB: Paper copies of this document may not be most recent version. The definitive version is held on INsite Documents

c) The authorised prescriber should be aware of the usual indications for a T34 syringe driver (appendix) that regular use of breakthrough medication indicates a need for reassessment of patient.

d) Following an assessment and recommendation of a T34 syringe driver by an appropriately skilled non-prescriber, such as a Palliative Care Nurse Specialist, a prescriber should make an assessment and promptly prescribe an appropriate T34 syringe driver.

e) If the prescriber is in doubt about the appropriateness of the recommendation, the situation and concern should be discussed directly with the Specialist Palliative Care Team (UHL 9-5pm, via LOROS 5pm9am). There is a Consultant in Palliative Medicine on call if senior medical advice is required. The contact details for the Palliative Care Team and LOROS are available on the Palliative Care Page on INSITE.

f) A list of commonly used drugs with use with adult patients can be found on the LOROS website or published infusion resources.(or nerve centre) If unsure contact the Palliative Care Team or Pharmacy.

g) A T34 syringe driver must not be prescribed on an anticipatory ‘as needed’ basis.

4.5 Healthcare Professional Staff involved in setting up and using a T34 syringe driver:

a) Staff must request, use and return a T34 syringe driver in accordance with this policy (see Appendices 2-7)

b) Staff must attend training and be assessed as a safe user before setting up a T34 syringe driver (appendix 8)

c) Staff should notify their line manager of any training needs and for undertaking relevant training

d) The health care professionals should communicate with the patient, those important to them and the team about the presence and purpose of a T34 syringe driver. If they are asked for information and are unsure, the query must be passed on to a member of the clinical team to respond e.g. staff nurse, ward manager, specialist palliative care team.

e) The SAF-T cannula should be used if symptoms are not fully controlled both before the T34 syringe driver is used and in addition to administer PRN medications.

f) All medication in the Syringe driver should be clear. If unsure seek advice from the Palliative Care team or Pharmacy

4.7 **Specialist Palliative Care Team**

a) Give advice on commonly used drugs in palliative and end of life care for adult patients, ensuring this advice is documented. The Palliative Care page on INSITE should be used to identify appropriate contact details for the team at the relevant time of day/day of the week.

b) Support healthcare professionals and patients and those important to them to answer questions or concerns, regarding the presence and purpose of a T34 syringe driver

c) Advise healthcare professionals on the correct device (T34 syringe driver) Policy for the Use of the Ambulatory T34 Syringe Driver in Adults Receiving Palliative and/or End of Life Care in the University Hospitals of Leicester NHS Trust Page 6 of 31 Version 2 approved by Policy & Guideline Committee 6 May 2022 Trust ref: B29/2018 next review: May 2025 NB: Paper copies of this document may not be most recent version. The definitive version is held on INsite Documents to be used to deliver subcutaneous infusions to patients for the use of palliative or end of life care medication

d) When persistent problems are identified with the infusion site, advise health care professionals on the appropriate management

e) Specialist Palliative Care Team prescribers should prescribe a T34 syringe driver following assessment of the patient and identification of need for a T34 syringe driver

f) Specialist Palliative Care Team non-prescribers who recommend a syringe driver must alert an authorised prescriber to the need for a prompt assessment and prescription of an appropriate syringe driver

g) Respond to requests from the Palliative/End of Life Care Committee to provide clinical input into an action plan if the number of syringe drivers is not sufficient to meet actual or projected demand

4.8 Medical Physics Staff will be responsible for:

a) following the process for obtaining and returning a T34 syringe driver (Appendix 4)

b) ensuring that the blue box is filled with the relevant equipment prior to being sent for use with a patient (see appendix 7)

c) keeping an accurate log of available T34 syringe drivers and the locations of T34 syringe drivers that have been taken to a ward area (see appendix 4) • A report will be submitted to the End of Life and Palliative Care Committee as set out in the policy monitoring schedule. This report will outline the number of available T34 syringe drivers and whether any T34 syringe drivers have been lost.

d) reporting to the Chair of the End of Life and Palliative Care Committee if there is any concern that the number of available T34

syringe drivers is not sufficient for actual or projected demand T34 syringe drivers. The Specialist Palliative Care Team should also be notified.

e) ensuring that the T34 syringe drivers are serviced and maintained in accordance with the service schedule and specific requirements arising from Medical Devices Alerts.

f) This includes the specific requirements to check the battery connections in Medical Devices Alert MDA/2018/010.

g) The Medical Device Training team is currently responsible for education and training about T34 syringe drivers. Should this change or they encounter any difficulties with the delivery of education or records of education, this must be reported to the End of Life and Palliative Care Committee.

4.9 Portering Staff Will follow assist with the delivery and return of T34 syringe drivers supporting support ward staff and the Medical Equipment Library (appendix 4).

5 POLICY IMPLEMENTATION AND ASSOCIATED DOCUMENTS –WHAT TO DO AND HOW TO DO IT

5.1 Any clinical area using a T34 syringe drivers must have staff who are trained and competent to use or request T34 syringe drivers in accordance with this policy prior to implementation. (see section 6 for training)

5.2 A video has been developed and is available on INSite to serve as a refresher for staff training following face-face training and assessment as a safe user.

5.3 Clinical areas that use the T34 syringe drivers must have staff who have received training on the Saf-T cannula introduced into the Trust in November 2018.

5.4 A T34 syringe driver is the only delivery device that may be used to deliver a subcutaneous infusion for palliative and/or end of life care medication.

5.5 Staff who set up a T34 syringe driver must be trained to do so and assessed as a safe user in accordance with Appendix 8, T34 Syringe Driver Training and Safe User Checklist

5.6 The updated T34 syringe driver checklist (appendix 6) and patient and family information leaflet (appendix 5) must be used.

6 EDUCATION AND TRAINING REQUIREMENTS

6.1 Ward Staff must have initial face to face training on T34 syringe drivers followed by an assessment. Top up training will be available online via Insite as a video (Chrome browser only) and face- face if requested. http://insite.xuhltr.nhs.uk/homepage/clinical/medical-devices/t34-syringe-driver-version-2

6.2 Staff who train and assess staff as safe users of the T34 syringe driver must • have attended and completed the CME Medical T34 syringe driver training session or an in-house session based on the

CME training • be a registered healthcare professional who is competent in this skill • Have a sound knowledge of relevant policies and procedures

6.3 A record of staff who are safe users of the T34 syringe driver will be kept and maintained by the team leading education delivery

7 PROCESS FOR MONITORING COMPLIANCE

This policy will be monitored using the following indicators in the table below:

POLICY MONITORING TABLE

The top row of the table provides information and descriptors and is to be removed in the final version of the document

Element to be monitored	Lead	Tool	Frequency	Reporting arrangements Who or what committee will the completed report go to.
Use of only T34 syringe drivers to deliver subcutaneous infusions of palliative or end of life care medication	Palliative and End of Life Care Lead Nurse,	Spot audit to ensure that no other delivery device is being use	Annually	End of Life and Palliative Care Committee
Monitoring of T34 syringe driver infusions	Palliative and End of Life Care Lead Nurse	Spot audit of set up, renewal & checks conducted on T34 syringe drivers	6 monthly	End of Life and Palliative Care Committee
Use of appropriate cannula, infusion line and sunsafe bag	Palliative and End of Life Care Lead Nurse	Spot audit to check appropriate use, as set out in policy	6 monthly	End of Life and Palliative Care Committee
Availability of T34 syringe drivers	Lead Clinical Technologist Medical Physics Department	To provide information about 1) Number of available T34 syringe drivers 2) lowest number of T34 syringe drivers available at any one time 3) number lost, including whether internally or following discharge	Monthly figures to End of Life Care Lead, Palliative and End of Life Care Lead Nurse and Chair of Palliative and End of Life and Palliative Care Committee. Written report every 3 months to the End of Life and Palliative Care Committee	End of Life and Palliative Care Committee

Training report	Medical Physics Education Lead	1) Number of safe users per ward 2) Record of face to face training delivered	Every 3 months	End of Life and Palliative Care Committee
Incidents	Patient Safety Team rep at End of Life and Palliative Care Committee	Any reported clinical incidents about T34 syringe drivers	Every 6 months	End of Life and Palliative Care Committee

8 EQUALITY IMPACT ASSESSMENT

8.1 The Trust recognises the diversity of the local community it serves. Our aim therefore is to provide a safe environment free from discrimination and treat all individuals fairly with dignity and appropriately according to their needs. 8.2 As part of its development, this policy and its impact on equality have been reviewed and no detriment was identified.

EDI Statement

We are fully committed to being an inclusive employer and oppose all forms of unlawful or unfair discrimination, bullying, harassment and victimisation

It is our legal and moral duty to provide equity in employment and service delivery to all and to prevent and act upon any forms of discrimination to all people of protected characteristic: Age, Disability (physical, mental and long-term health conditions), Sex, Gender reassignment, Marriage and Civil Partnership, Sexual orientation, Pregnancy and Maternity, Race (including nationality, ethnicity and colour), Religion or Belief, and beyond.

We are also committed to the principles in respect of social deprivation and health inequalities.

Our aim is to create an environment where all staff are able to contribute, develop and progress based on their ability, competence and performance. We recognise that some staff may require specific initiatives and/or assistance to progress and develop within the organisation.

We are also committed to delivering services that ensure our patients are cared for, comfortable and as far as possible meet their individual needs.

9 SUPPORTING REFERENCES, EVIDENCE BASE AND RELATEDPOLICIES

Dickman A, Schneider.J (2016) The Syringe Driver: Continuous Subcutaneous Infusions in Palliative Care (4th ed). London: Oxford University Press

European Union (Council) Directive (2010) 2010/32/EU Prevention of Sharps Injuries in the Hospital and Healthcare Sector. Bilbao: European agency for Safety and Health at Work. Available at https://osha.europa.eu/en/legislation/directives/council-directive2010-32-eu-prevention-from-sharp-injuries-in-the-hospital-and-healthcare-sector. Accessed 19.10.17

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

Leadership Alliance for The Care of Dying People. (2014) Priorities of Care for the Dying Person: Duties and Responsibilities of Health and Care Staff. Leadership Alliance

Policy for the Use of the Ambulatory T34 Syringe Driver in Adults Receiving Palliative and/or End of Life Care in the University Hospitals of Leicester NHS Trust Page 9 of 31 Version 2 approved by Policy & Guideline Committee 6 May 2022 Trust ref: B29/2018 next review: May 2025 NB: Paper copies of this document may not be most recent version. The definitive version is held on INsite Documents

McKinley RK, Strand J, Gray T et.al. (2008) Development of a tool to support holistic generic assessment of clinical procedural skills. Medical

Education 42 619-627

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 National Patient Safety Agency

Medical Devices Alert (2016) MDA/2016/002

National Patient Safety Agency Medical Devices Alert (2018) MDA/2018/010

NICE (2015) NG31:Care of dying adults in the last days of life. Available at www.nice.org.uk/guidance/ng31. Accessed 22.09.17

NMC (2009) Record Keeping: Guidance for Nurses and Midwives. London: NMC

NMC (2010) Standards for Medicines Management. London: NMC

NMC (2015) The Code. Standards of Conduct, performance and ethics for nurses and midwives. London. NMC

Twycross R, Wilcock A. et al (2014) Palliative Care Formulary. (5th Edition) Nottingham: Palliativedrugs.com Ltd

UHL Mental Capacity Act Policy B23/2007

UHL Sharps Management Policy B8/2013

UHL Care of adults in the last days of life guidance B1/2014

UHL IV (intravenous policy) B25/2010

UHL Policy & procedures for the management of Controlled drugs (CDs) on wards, departments and theatres B16/2009

UHL Policy for Consent to examination or treatment A16/2002

10 PROCESS FOR VERSION CONTROL, DOCUMENT ARCHIVING AND REVIEW

10.1 This policy will be reviewed every 3 years. A lead reviewer for the policy will be appointed by the End of Life and Palliative Care Committee. 10.2 The updated version of the Policy will then be uploaded and available through INsite Documents and the Trust's externally-accessible Freedom of Information publication scheme. The previous combined setting T34 syringe driver policy E1/2013 will be archived through the Trusts PAGL system.

APPENDIX 2 Indications for, and advantages of, using a T34 Syringe Driver

A2.1 The T34 Syringe Driver provides a continuous subcutaneous infusion seeking to achieve a steady plasma concentration of medicines and should therefore be considered
as an option when the following symptoms are present:-

- Persistent nausea and/or vomiting
- Dysphagia
- Mouth/throat/oesophageal lesions
- Intestinal obstruction
- Malabsorption of oral medication
- Unconscious and semi-conscious patients
- Profound weakness when patients are unable to swallow medication

A.2.2 The advantages of using a T34 syringe driver are as follows:-

- 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 (Twycross et al 2014)

A2.3. No other infusion device should be used to deliver a subcutaneous infusion of Palliative Care Medications. If unsure which delivery device to use for a palliative care Patient, please contact the Specialist Palliative Care Team.

APPENDIX 3 Procedure for Obtaining, Setting Up and Using a T34 Syringe Driver Contents

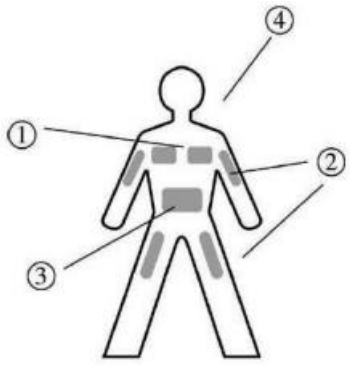
A3.1 Obtaining a T34 Syringe Driver

- Contact Medical Equipment Library to request a T34 syringe driver. The information required to make this request and the contact details are set out in Appendix 4
- T34 syringe drivers are the only delivery device that should be used to administer subcutaneous infusions of palliative and/or end of life care medication
- If Medical Equipment Library staff are unable to deliver the T34 syringe driver, or it is out-of hours (5pm-9am Mon-Friday and at weekends), request a member of portering staff to obtain the T34 syringe driver as set out in Appendix 4
- If there are any difficulties following the process, this should be escalated to the Site Managers.
- Availability of T34 Syringe Drivers can be checked via InSite
- http://insite.xuhl-tr.nhs.uk/homepage/clinical/medical-devices/t34-syringe-driver

- It is important to request a T34 syringe driver as soon as possible after a recommendation that a T34 syringe driver is made. This is because a T34 syringe driver should be commenced as soon as possible after it is recommended. This will usually be within 4hours or 2 hours if the drugs are stock drugs on the ward. This is to allow time for the medication to be prescribed, the T34 syringe driver to be requested and brought to the ward and the drugs checked. If a T34 syringe driver cannot be set up within this time frame, an incident report should be completed.

A3.2 Choosing an Appropriate Infusion Site

Acceptable subcutaneous cannula insertion sites are as follows (See diagram):
1. Anterior chest wall (least common)
2. Anterior aspect of upper arms and thighs
3. Anterior Abdominal wall
4. Scapula region



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

If a local reaction occurs, the cannula must be re-sited using a fresh cannula and administration set. If this recurs, consider further diluting the drug(s).

A3.3 **Inserting a Saf-T cannula or equivalent**

A Saf-T 249 cannula is supplied within the blue box to ensure ease of availability when setting up a T34 syringe driver (See appendix 7)

A Saf-T 249 or equivalent device will be used subcutaneously –this will be attached to the syringe driver via a short infusion line. The following procedure (with rational) should be followed to insert the Saf-T device or equivalent

a. Confirm identity of the patient

b. Explain the proposed procedure to the patient and/or the family or those important to them, in keeping with Consent to Treatment and Mental Capacity Act policies.

c. Clean and wash hands with liquid soap and dry with paper towels.
Policy for the Use of the Ambulatory T34 Syringe Driver in Adults Receiving Palliative and/or End of Life Care in the University Hospitals of Leicester NHS Trust Page 13 of 31 Version 2 approved by Policy & Guideline Committee 6 May 2022 Trust ref: B29/2018 next review: May 2025
NB: Paper copies of this document may not be most recent version. The definitive version is held on INsite Documents

d. Prepare equipment and skin in accordance with Infection Prevention UHL policy

e. Remove and dispose of clamp on the Saf-T cannula to avoid accidental occlusion

f. Rotate white safety barrel to loosen the needle

g. Grasp ridged side wings of the cannula between thumb and index finger. Remove needle sheath from Saf-T-Intima cannula making sure the eye of the needle is facing upwards at the sharpest point to enter the skin

h. Pinch skin up into a fold between thumb and forefinger and insert the cannula at 30-45 degree

i. Cover the insertion site and wings with a transparent semipermeable dressing

j. Hold the wings of the cannula firmly and remove the introducer by pulling back in a single smooth movement.

k. Dispose of sharps directly into a sharps container

A Saf-T cannula can remain in place for up to 7 days providing this is necessary and that

there is no evidence of site reaction or irritation.

Medical Equipment Library should be contacted for further supplies of Saf-T cannulas are required. A stock is held at each site for this purpose.

A3.4 Monitoring a T34 Syringe Driver

- UHL staff should monitor a T34 syringe driver and associated infusion site at least every 4 hours.
- Staff should record their monitoring and action as directed on the standardised UHL T34 Syringe Driver Monitoring Form (Appendix 6)

A3.5 Setting Up a T34 Syringe Driver

A3.5.1 STEP 1: Confirmation of equipment, prescription and medication

a) Wash hands with liquid soap and dry with paper towels

b) Check that the T34 syringe driver and accessories are clean, visually intact and in working order and that the T34 Syringe Driver is within its service date. This should include a visual inspection to check that the battery housing appears intact.

c) Ensure that there is a prescription for the administration of medicines and that it is clear and complete, including a prescriber's signature for each individual medication

d) Confirm the patient identity and consent to treatment

e) Confirm previous medication dose, formulation and frequency of medications relevant to those prescribed via subcutaneous infusion, including prn "as needed" medications. If there are any concerns about whether the doses are appropriate based on the previous requirements or a high number of prn doses, please raise this concern with an authorised prescriber. If specialist advice is needed, please speak to the Specialist Palliative Care Team (UHL 9-5pm Monday-Sunday, LOROS 5pm9am). If specialist advice is sought, this should be documented by both parties.

A3.5.2 STEP 2: Filling the syringe

a) Check the name of the patient matches that on the prescription
b) Check the expiry date of medication and diluents to be used.
c) Correctly draw up the prescribed medication and diluents on a clean surface and make up to either the standard recommended amount of 17ml in a 20ml leur lock syringe or if required 22ml in a 30ml leur lock syringe.
d) Care must be taken when drawing up medication to distinguish between high and low strength ampoules of medication (NPSA 2008)

A3.5.3 STEP 3: Labelling the syringe

a) All syringes containing medications must be clearly labelled to ensure all staff can identify the syringe content, including whilst in the lockbox.
b) If there is any doubt as to the contents of a syringe, the contents should be discarded and a new clearly labelled syringe prepared as soon as possible.

c) Complete the label details in ink or other indelible print.
d) The label should state:

- The name of the patient for whom it is intended with S number
- The date and time of preparation
- The initials of the person preparing the contents and the initials of the person checking the contents (if applicable)
- The name and dose of all medications e.g. morphine 15mg, haloperidol 5mg, etc.
- The name of the diluent e.g. water for injection
- The total volume of the contents
- The intended route of infusion

e) Attach the correctly completed infusion label to the syringe, wrapping label flat around syringe (the label must not be folded)

A3.5.4 STEP 4: Set up the T34 syringe driver using "PRIME THEN LOAD" METHOD Version 2 and 3

a) Insert the battery correctly into the T34 syringe driver. There should be a further check that there is an adequate battery connection and that the battery housing is intact, with no signs of damage. If there are any concerns or signs of damage, do not use the pump and request another, sending the damaged pump back for servicing. A PP3 battery must be used. These will be supplied in the blue box.

b) Attach the shortest available anti-siphon, anti-reflux latex free female Leur lock line to the loaded syringe. A Care Fusion extension line PA 100-U or equivalent is most suitable.

c) Manually prime the line by depressing the plunger on the syringe d) Check the solution for clouding or crystallisation. If clouding or crystallisation occurs, do not use and check with a pharmacist regarding the compatibility of drugs

A3.5.5 STEP 5: Fitting the T34 syringe driver, including connecting it to the patient

a) Before switching the T34 Syringe Driver on, ensure the barrel clamp arm is down and no syringe is in place

b) Press and hold down the ON/OFF key until the device activates

c) Observe pre-loading (automatic actuator movement) and check T34 syringe driver settings on display screens, paying attention to ensure that on the third screen PROGRAM LOCK ON displays during pre-loading then wait until "load syringe" screen displays. If PROGRAM LOCK OFF displays, do not use the T34 syringe driver and request a replacement device, sending the faulty device back with a message about error for servicing.

d) Check battery level by pressing INFO YES, wait a few seconds for "load syringe" screen to re-appear

e) Ensure barrel arm clamp is in the down position. Align syringe to fitting

area and use ◄◄ FF ►►Back keys to adjust if necessary so that the syringe will fit

f) Lift and twist barrel arm clamp and insert syringe into 3 sensor areas

g) Return barrel clamp arm to the down position to secure on top of the syringe

h) Check syringe displayed on screen matches the brand being used (BD Plastipak or equivalent). If no syringe brand displays, re-load the syringe in the sensors.

i) Check the infusion summary screen. If correct, press YES

j) Insert the Saf-T 249 cannula or equivalent as directed in section A3.3

k) Connect infusion line to the Patient's subcutaneous cannula

l) Press YES key to start infusion

m) 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 Policy for the Use of the Ambulatory T34 Syringe Driver in Adults Receiving Palliative and/or End of Life Care in the University Hospitals of Leicester NHS Trust Page 16 of 31 Version 2 approved by Policy & Guideline Committee 6 May 2022 Trust ref: B29/2018 next review: May 2025 NB: Paper copies of this document may not be most recent version. The definitive version is held on INsite Documents

n) Place the attached T34 syringe driver in the T34 syringe driver clear plastic lockable box and lock. Place this within the 'Sunsafe' protective bag which is supplied in the T34 syringe driver box (see appendix 7)

o) Ensure that the T34 syringe driver is situated away from heat and moisture

p) Dispose of Sharps in accordance with UHL Sharps policy

q) Wash hands with liquid soap and dry with paper towels or use alcohol hand sanitiser

r) Ensure that appropriate documentation is completed, including all appropriate sections on the UHL syringe driver monitoring form (see appendix 6)

s) Prior to leaving the patient, the T34 Syringe Driver must be checked to ensure that it is running correctly

A3.6 Re-loading a T34 Syringe Driver

A3.6.1 Recognising the need to re-load a T34 syringe driver

a) As the T34 Syringe Driver approaches the end of the infusion, it will commence intermittent alarming, both audibly and visually every 3 minutes for

the 15 minutes prior to completion of the infusion. Staff should be aware that they will need to plan to re-load the T34 syringe driver as far as possible.

b) Staff should plan to re-load a syringe driver in a planned way before it has run out. Information from the T34 syringe driver monitoring form can help identify the time the infusion is expected to finish and staff can use this to help them plan

A3.6.2 STEP 1: Confirmation of equipment, prescription and medication

a) Wash hands with liquid soap and dry with paper towels

b) Check that the T34 syringe driver and accessories are clean, visually intact and in working order and that the T34 Syringe Driver is within its service date. This should include a visual inspection to check that the battery housing appears intact.

c) Ensure that there is a prescription for the administration of medicines and that it is clear and complete, including a prescriber's signature for each individual medication d) If a drug or a dose of drug is changed, please stop following this process and follow process set out in A3.5 'Setting up a T34 syringe driver' but noting that the Saf-T may not need to be replaced (see section A3.3.3). This procedure should be used because a new syringe will need to be prepared.

e) Confirm the patient identity and consent to treatment

f) Confirm previous medication dose, formulation and frequency of medications relevant to those prescribed via subcutaneous infusion, including prn "as needed" medications. Policy for the Use of the Ambulatory T34 Syringe Driver in Adults Receiving Palliative and/or End of Life Care in the University Hospitals of Leicester NHS Trust Page 17 of 31 Version 2 approved by Policy & Guideline Committee 6 May 2022 Trust ref: B29/2018 next review: May 2025 NB: Paper copies of this document may not be most recent version. The definitive version is held on INsite Documents

g) If there are any concerns about whether the doses are appropriate based on the previous requirements or a high number of prn doses, please raise this concern with an authorised prescriber. If specialist advice is needed, please speak to the Specialist Palliative Care Team (UHL 9-5pm Monday-Sunday, LOROS 5pm-9am). If specialist advice is sought, this should be documented by both parties

A3.6.3 STEP 2: Filling the syringe

a) Check the name of the patient matches that on the prescription

b) Check the expiry date of medication and diluents to be used.

c) Correctly draw up the prescribed medication and diluents on a clean surface and make up to either the standard recommended amount of 17ml in a 20ml Leur lock syringe or if required 22ml in a 30ml leur lock syringe.

d) Care must be taken when drawing up medication to distinguish between high and low strength ampoules of medication (NPSA 2008)

A3.6.4 STEP 3: Labelling the syringe

a) All syringes containing medications must be clearly labelled to ensure all staff can identify the syringe content, including whilst in the lockbox.

b) If there is any doubt as to the contents of a syringe, the contents should be discarded and a new clearly labelled syringe prepared as soon as possible.

c) Complete the label details in ink or other indelible print.

d) The label should state:

- The name of the patient for whom it is intended with S number
- The date and time of preparation
- The initials of the person preparing the contents and the initials of the person checking the contents (if applicable)
- The name and dose of all medications e.g. morphine 15mg, haloperidol 5mg, etc.
- The name of the diluent e.g. water for injection
- The total volume of the contents
- The intended route of infusion

e) Attach the correctly completed infusion label to the syringe, wrapping label flat around syringe (the label must not be folded)

A3.6.5 STEP 4: Re-loading the T34 syringe driver

a) To unlock keypad, press and hold the INFO key down until the black graphic moves from the right (ON) to the left (OFF). A beep is head, confirming that the lock has been deactivated

b) Press the STOP key Policy for the Use of the Ambulatory T34 Syringe Driver in Adults Receiving Palliative and/or End of Life Care in the University Hospitals of Leicester NHS Trust Page 18 of 31 Version 2 approved by Policy & Guideline Committee 6 May 2022 Trust ref: B29/2018 next review: May 2025 NB: Paper copies of this document may not be most recent version. The definitive version is held on INsite Documents

c) Press and hold the ON/OFF key until the black bar moves across the screen and a beep is heard. The screen will go blank.

d) Clamp Patient's line/cannula

e) Remove the T34 syringe driver from the locked plastic box

f) Remove the completed syringe from T34 syringe driver (the T34 syringe driver must be switched off before removing the syringe)

g) Before you switch the T34 syringe driver back on, ensure the barrel clamp arm isdown and no syringe is in place

A3.6.6 STEP 5: Fitting the T34 syringe driver, including connecting it to the patient

a) Check the solution for clouding or crystallisation. If clouding or crystallisation occurs, do not use and check with a pharmacist regarding the compatibility of drugs

b) Attach the filled syringe to the existing anti-siphon, anti-reflux latex

free female Leur lock line (Care Fusion extension line PA 100-U or equivalent)

c) Press and hold down the ON/OFF key. The T34 syringe driver will activate

d) Observe pre-loading (automatic actuator movement) and check the T34 syringe driver settings on display screens during pre-loading, then wait until “load syringe” screen displays. If this process fails or PROGRAM LOCK OFF displays, do not use and return the T34 syringe driver to medical equipment library for servicing and request a replacement T34 syringe driver.

e) Check battery level by pressing INFO YES, wait a few seconds for “load syringe” screen to reappear. Check battery and connections appear visually intact.

f) Align the filled syringe to fitting area and use ◄◄ FF ►►Back keys to adjust if necessary so that the syringe will fit.

g) Lift and twist barrel arm clamp and insert syringe into 3 sensor areas

h) Return barrel clamp arm to the down position to secure on top of the syringe

i) Check syringe displayed on screen matches the brand being used (BD Plastipak or equivalent). If no syringe brand displays, re-load the syringe in the sensors.

j) Check the infusion summary screen, if correct press YES

k) 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

l) Ensure infusion line is connected to the Patient’s subcutaneous cannula and any clamps are released

m) Press YES key to start infusion

n) 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 Policy for the Use of the Ambulatory T34 Syringe Driver in Adults Receiving Palliative and/or End of Life Care in the University Hospitals of Leicester NHS Trust Page 19 of 31 Version 2 approved by Policy & Guideline Committee 6 May 2022 Trust ref: B29/2018 next review: May 2025 NB: Paper copies of this document may not be most recent version. The definitive version is held on INsite Documents

o) Place the attached T34 syringe driver in the T34 syringe driver clear plastic lockable box and lock. Place this within the ‘Sunsafe’ protective bag which is supplied in the T34 syringe driver box (see appendix 7)

p) Ensure that the T34 syringe driver is situated away from heat and moisture

q) Dispose of Sharps in accordance with UHL Sharps policy

r) Wash hands with liquid soap and dry with paper towels or use alcohol hand sanitiser

s) Ensure that appropriate documentation is completed, including all appropriate sections on the UHL syringe driver monitoring form (see appendix 6)

t) Prior to leaving the patient, the T34 Syringe Driver must be checked to ensure that it is running correctly

A3.7 Stopping and Removing T34 Syringe Driver

a) If a person has died with the T34 syringe driver in place and there are any concerns about the circumstances of the death, or the death is unexpected, leave the T34 syringe driver in place and contact the duty manager for advice.

b) In cases of an expected death where there are no concerns about the circumstances of death, it is acceptable to remove the T34 syringe driver and line from the patient. The T34 syringe driver may also be removed if symptoms resolve and it is no longer required

A3.7.3 Stopping and/or Removing a T34 syringe driver

a) Wash hands with liquid soap and dry with paper towels

b) To unlock keypad, press and hold the INFO key down until the black graphic moves from the right (ON) to the left (OFF). A beep is head, confirming that thelock has been deactivated

c) Press the STOP key

d) If the T34 syringe driver is no longer required for the patient, press and hold the ON/OFF key until the black bar moves across the screen and a beep is heard. The screen will go blank.

e) Remove the T34 syringe driver from the locked plastic box

f) Remove the syringe from T34 syringe driver (the T34 syringe driver must be switched off before removing the syringe)

g) immediately removes the line and cannula from the patient

h) Remove the battery from the T34 syringe driver

i) Wash hands with liquid soap and dry with paper towels

j) Ensure that appropriate documentation is completed, including all appropriate Policy for the Use of the Ambulatory T34 Syringe Driver in Adults Receiving Palliative and/or End of Life Care in the University Hospitals of Leicester NHS Trust Page 20 of 31 Version 2 approved by Policy & Guideline Committee 6 May 2022 Trust ref: B29/2018 next review: May 2025 NB: Paper copies of this document may not be most recent version. The definitive version is held on INsite Documents sections on the UHL syringe driver monitoring form (see appendix 6)

k) Put the T34 syringe driver back in the blue box it was supplied in. Return these to the Medical Equipment Library as soon as possible so that they can be made ready for the next use (See appendix 4)

l) If a T34 syringe driver is discontinued and medicine, including controlled drugs, remains in the syringe, the unused contents must be disposed of in accordance with local policy. Sharps should be disposed of in keeping with UHL Sharps Policy

A3.8 Managing a Planned Temporary Interruption in T34 Syringe Driver Infusion (e.g. for showering)

A3.8.1 Temporarily Stopping the Infusion

a) Wash hands with liquid soap and dry with paper towels

b) To unlock keypad, press and hold the INFO key down until the black graphic moves from the right (ON) to the left (OFF). A beep is heard, confirming that the lock has been deactivated

c) Press the STOP key. Press and hold the ON/OFF key until the black bar moves across the screen and a beep is heard. The screen will go blank.

d) Disconnect the infusion line from the Saf-T or equivalent cannula and cap the ends. DO NOT REMOVE THE SYRINGE DRIVER FROM THE LOCKED BOX

e) Wash hands with liquid soap and dry with paper towels.

f) Store the syringe driver in a secure location. This should be in the controlled drugs cupboard if the T34 syringe driver contains controlled drugs

g) Complete the relevant documentation on the T34 syringe driver checklist. Document should include the amount remaining in the syringe, the time the infusion is interrupted for and the reason for interruption

A3.8.2 Restarting an Infusion Following an Interruption

a) Wash hands with liquid soap and dry with paper towels

b) Check that the T34 syringe driver and accessories are clean, visually intact and in working order. If there are any concerns, the syringe driver should be removed from the locked box and all checks should be carried out as set out in section

c) Ensure that there is a prescription for the administration of medicines and that it is clear and complete, including a prescriber's signature for each individual medication. This should match the label on the syringe within the T34 syringe driver (this should still be visible through the locked box).

d) Reconnect the line to the Saf-T cannula or equivalent

e) Press and hold the ON/OFF key until a beep is heard. The syringe will request confirmation of the syringe size and brand. Policy for the Use of the Ambulatory T34 Syringe Driver in Adults Receiving Palliative and/or End of Life Care in the University Hospitals of Leicester NHS Trust Page 21 of 31 Version 2 approved by Policy & Guideline Committee 6 May 2022 Trust ref: B29/2018 next review: May 2025 NB: Paper copies of this document may not be most recent version. The definitive version is held on INsite Documents

f) Press the YES key to resume. The screen will display the remaining volume, duration and the rate of the infusion.

g) Press the YES key to confirm

h) Press the Yes key to re-start the infusion.

i) To reactivate the keypad lock, press and hold INFO key until the graphic fills left to right (OFF to ON) and an audible beep is heard

j) Wash hands with liquid soap and dry with paper towels

k) Ensure that appropriate documentation is completed, including all appropriate sections on the UHL syringe driver monitoring form (see appendix 6)

l) Prior to leaving the patient, the T34 Syringe Driver must be checked to ensure that it is running correctly

A3.9 Trouble Shooting

a) If the infusion is running too fast (i.e. running more than one hour ahead of expected time) change the entire T34 Syringe Driver for a new one and send the original T34 Syringe Driver for servicing to the Medical Equipment Library

b) If the infusion is running too slow (i.e. running more than one hour behind the expected time):-

- Check the infusion light is status indicator green and flashing • Check the battery level
- Check the syringe is inserted correctly into the T34 Syringe Driver
- Ascertain if the T34 Syringe Driver has been stopped and re-started 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 of 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.

c) If there are persistent problems with the site, please refer to the Specialist Palliative Care Service or LOROS d) If the infusion continues to run through too slowly, change the entire T34 Syringe Driver for a new one and send the original T34 Syringe Driver for servicing

A3.9.3 T34 Syringe Driver Alarms When the T34 Syringe Driver detects a problem, four things occur:-

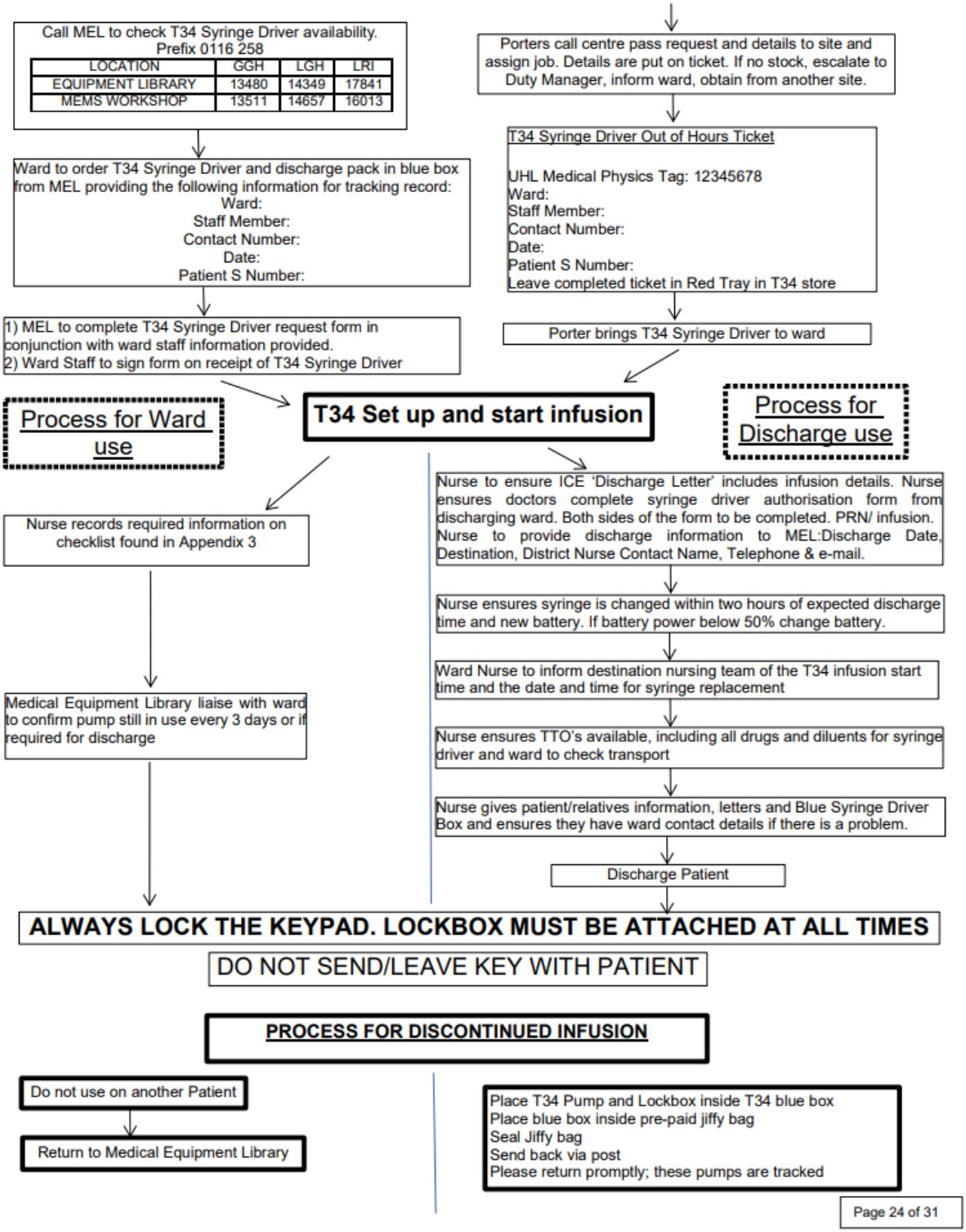
1. The infusion stops
2. An audible alarm is activated
3. A message appears on the display screen indicating the cause of the alarm Policy for the Use of the Ambulatory T34 Syringe Driver in Adults Receiving Palliative and/or End of Life Care in the University Hospitals of Leicester NHS Trust Page 22 of 31 Version 2 approved by Policy & Guideline Committee 6 May 2022 Trust ref:

4. The LED indicator turns RED

The alarm will sound for the follow reasons:

LCD Display	Alarm Type	Possible Cause	Action
Occlusion of syringe empty	Audible and visual alarm	• Patient cannula / line blocked, kinked • Occlusion • Infusion has finished	Press YES to silence alarm
Syringe displaced	Audible and visual alarm Intermittent beep - the alarm is insistent	Syringe has been removed or displaced	Check & confirm syringe is seated correctly and resume infusion The collar of the syringe should remain vertical at all times
T34 Syringe Driver paused too long	Audible and visual alarm Intermittent beep	T34 Syringe Driver 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	T34 Syringe Driver will alarm. Press YES to confirm end of program and OFF to switch T34 Syringe Driver off
Low battery	Audible and visual alarm Intermittent beep 2 beeps / 3 mins silence	Battery is almost depleted (30 mins left)	Prepare to change battery and resume infusion
End battery	Audible and visual alarm Intermittent beep	Battery is depleted	Change battery and resume infusion

NB : *With T34 Syringe Driver running, occlusion may take more than 2 hours to alarm. The T34 Syringe Driver operates an anti-bolus back-off system, consequently approx. 38 minutes is added to the infusion time following an occlusion.*



Link to patient information leaflet:

Information about your McKinley T34 syringe pump (leicestershospitals.nhs.uk)

Appendix 6

Patient Demographics

UHL T34 SYRINGE DRIVER CHECKLIST (use one sheet per T34 Syringe Driver)

Check Every 4 Hours

Identify Total Number of T34 Syringe Drivers in Use (ie. 1 of 1 or 1 of 2): ..... **Serial No:** ..... **Date:** ..../..../.....

Drugs Within ThisT34 Syringe Driver:	..... ***Dose:***	..... ***Dose:***	..... ***Dose:*** .....

	Date : Time:	**Date : Time:**	**Date : Time:**	**Date : Time:**	**Date : Time:**	**Date : Time:**
Start volume & duration on commencing/replenishing						
Location of needle site						
SC needle batch number (when changed/commenced)						
Size of syringe used (ml)						
Remaining volume to be infused (VTBI) & volume infused (VI), Press the **INFO** key once for this info						
Battery life remaining as %, Press the **INFO** key twice for this info						

If you have ticked **"Yes"** to any questions below in the shaded cells, document action taken on evaluation sheet in notes

Please Tick Yes or No	**Yes**	No	**Yes**	No	**Yes**	No	**Yes**	No	**Yes**	No	**Yes**	No
Kinks / blocks in line?												
Battery changed?												
Redness, pain, swelling or leakage at needle site?												
Re-sited?												
Check patient 4 hourly?												

If you have ticked **"No"** to any questions below in the shaded cells, document action taken on evaluation sheet in notes, including incident forms and escalation to medical team if appropriate

Please Tick Yes or No	**No**	Yes	**No**	Yes	**No**	Yes	**No**	Yes	**No**	Yes	**No**	Yes
Are symptoms controlled?												
Is solution clear in syringe?												
Syringe correctly inserted into T34 Syringe Driver?												
Is the indicator light flashing every 32 seconds?												
Is the display screen showing "pump delivering"?												
Is the amount left in the T34 Syringe Driver correct for the time allowed?												
Is the keypad locked?												
PRINT NAME / SIGNATURE / DESIGNATION:												

Contents of Blue Box Issued from the Medical Equipment Library when a T34 Syringe Driver Is Requested

• T34 Syringe Driver

• T34 Syringe Driver Lockbox

• Light (Sunsafe) Protective Pouch • Batteries PP3 x4

• Return to Medical Physics Labelled Polythene Bag • Information in the T34 Syringe Driver Box

• Saf-T cannula or equivalent • Short infusion line PA-100-V

T34 Syringe Driver Safe User Training and Requirements

Suggested assessment. "Demonstrate: means the candidate must carry out an action. "State" means the person must answer a question or provide a commentary to explain their action.

Ref	Topic	Competence	Training Detail
1.1	Policies for clinical and logistics processes	State: where to find it	Policy found on Insite under Clinical Guidelines and Policies ("Ambulatory")
1.2		State: Key knowledge of policy	Must know to: 1. Inform DN that patient is being discharged with McKinley T34 Syringe Driver and must be swapped with community device within 24hrs. 2. Inform DN expected time T34 Syringe Driver will need re-priming 3. Order T34 Syringe Driver and discharge pack, give patient identification 4. Follow the flow chart logistics process, particularly 7 days support differences
2.1	T34 Syringe Driver Basics	State: Location of Lock Box key	Key kept within CD cupboard
2.2		State: Appearance expectations: Plastic casing Buttons Battery appearance Labels Sunlight	Plastic casing intact Buttons readable Battery supplied in the box Within its compartment, metal contacts should keep the battery secure. Ensure that the battery is not loose. If you find problems with the battery connections, contact your hospital servicing department to arrange for them to adjust the battery housing connection. In date for service T34 Syringe Driver may stop in direct sunlight. Make sure patient is made aware and provide protection i.e. special pouch.
3.1	Administration	State: Syringe acceptable types/sizes	Only 20 or 30ml BD Plastipak with Leur lock end
3.2		State: Giving Set acceptable types/sizes	Shortest available giving set. Care Fusion extension line PA 100-U or equivalent
3.3		State: Needle acceptable types/sizes	Saf-T or equivalent Give site example of ward which has them - GH:CDU,LGH:22,LRI:42/43
4.1	Battery	Battery power State: the minimum acceptable remaining battery capacity. How long the battery will last from the start of a low battery alert. Demonstrate: Battery removal/ insertion technique	At time of preparing for infusion, battery must be replaced if less than 50% power Low battery power whilst infusing Alerts are given to warn of low power about 30 minutes before no power. Removal Slide cover off Lift up either top or bottom of battery with fingers, NOT battery compartment lid Insertion Remove battery terminal covers Orientate battery so that castellated contact is nearest T34 Syringe Driver base

			Place either top or bottom of battery into compartment with fingers Slide cover on	
5.1	Start	Demonstrate: Switch ON State: purpose of Pre-load andKey press delay alert	Press on/off switch Pre-load clears the memory. The actuator moves to the rear then forward. If it traps fingers/ clothing, use FF/back keys to release If T34 Syringe Driver is ON and not infusing, T34 Syringe Driver will sound alarm if more than 2 minutes from last key press	
5.2	Interrupted Infusion	State: implications of "YES toResume" and "NO for New Syringe"	If after clearing an occlusion, replacing the battery or similar interruption to infusion, "NO for New Syringe" is selected, the existing syringe will be assumed to be chosen for an infusion over another 24hours. Always immediately following the start of infusion, set the KEYLOCK (press/hold "INFO" key) because this disables the "NO for New Syringe" option.	
6.1	Prime Syringe & Load	Demonstrate: Draw up syringe State: how much for 20/30ml syringes Demonstrate: manually moving actuator to properly fit syringe inposition and lifting/lowering barrel clamp Demonstrate: use of "Info" key State: Explain what information is needed Attach correctly completed infusion label to the syringe, wrapped flat, not folded	20ml syringe draw 17ml. 30ml syringe draw 22ml Attach giving set and manually prime the line. The providing giving set has a volume of about 1.5mls. Actuator is moved using FF/Back keys to align with syringe plunger. The actuator can only be moved with power on, barrel clamp arm down and no syringe in place. The T34 Syringe Driver uses 3 points to correctly identify the brand and size once the syringe is correctly positioned. Battery capacity check >50% Attach correctly completed infusion label to the syringe, wrapped flat around syringe (the label must not be folded)	
6.2	Confirm Programme	State: Expected Volume,Duration and Rate Demonstrate: "YES"	For a 20ml syringe, expect to see: Volume: 15.5ml (+/-0.5ml) Duration: 24:00 Rate: (between) 0.62 - 0.68ml/h	For a 30ml syringe,expect to see: Volume: 20.5m(+/-0.5ml) Duration: 24:00 Rate: (between) 0.65 - 0.75ml/h

7.1	Insert Cannula Start Infusion	State: Insert cannula Demonstrate: At Prompt: "StartInfusion?" enter "YES" then setkey lock Check keylock, lock box and bagall used	Insert Cannula and connect infusion set At Prompt: "Start Infusion?" enter "YES" Immediately set key lock, hold down "Info" Place T34 Syringe Driver inside lock box, always place inside sunlight protective cover.
8.1	Check Progress	State: Use "Info" key LED Display	"Info" gives VI / VTBI and Battery state A green LED above the on/off switch lights every 30 seconds The display shows "Pump Delivering"
8.2	Alarms	State: Alarms	When in an alarm activates, Red LED illuminates Display message T34 Syringe Driver stops and alarm sounds continuously
10.1	End of Infusion	State: How long the infusion will last from the start of a syringenearly empty alert.	Alerts are given to warn of syringe nearly empty about 15 minutes before end.
10.2	Replace Syringe	Demonstrate: Key Lock removeStop On/Off--OFF	Syringe replacement must always be done by removing key lock, pressing "Stop" and switching T34 Syringe Driver OFF. This resets the T34 Syringe Driver

11.1		Demonstrate: new syringereplacement	There is no need to prime line. Best practice is: Remove key lock, press "Stop" and switch T34 Syringe Driver OFF. This resets the T34 Syringe Driver Draw up new syringe Bring new syringe next to T34 Syringe Driver Transfer giving set from old to new syringe Remove old syringe from T34 Syringe Driver Switch on new T34 Syringe Driver, wait for pre-load Position actuator Place new syringe in position Check correct brand and size Confirm volume (17/22) and duration (24.00) Rate (0.68-0.72 / 0.89 – 0.93) Start Infusion Set Key lock Insert T34 Syringe Driver in lock box Insert lock box in bag
12.1	After Use	State: disposal route for Syringe,Giving set and needle	Dispose of any remaining medicine following standard protocols. Dispose of empty syringe, giving set and needle in Sharps bin
12.2		State: storage for T34 Syringe Driver	Clean using hospital approved cleaning wipes Return to UHL Medical Equipment Library
12.3		State: Adverse Incidents processDefective T34 Syringe Driver process	DATIX Return to Medical Physics with decontamination form