**Title:** Management of Subcutaneous Infusions in Children Policy and Procedures

**Purpose:** The purpose of the document is to inform health professionals (Including RCHT staff) on the correct, safe and appropriate use of the McKinley T34 syringe driver for subcutaneous infusions.

**Applicable to:** All paediatric staff caring for children receiving subcutaneous infusions.

**Document Author:** Children’s Palliative Care Working Group (CFT & RCHT)

**Ratified by and Date:** Sharon Linter – Director of Quality and Governance / Executive Nurse
4 December 2013

**Review Date:** June 2016
6 months prior to the expiry date

**Expiry Date:** See version control table
3 years after ratification unless there are any changes in legislation or changes in clinical practice

**Document library location:** Clinical: Clinical Guidelines

**Related legislation and national guidance:** None

**Associated Trust Policies and Documents:**
- Generic Waste Management Policy: HS.IC/028
- Management Of Inoculation Injuries including Needle Stick, Scratches, Bites And Other Bodily Fluid Exposure: HS.IC/005
- Infection Control Standard Precautions: Use of Personal Protective Equipment: HS.IC/030
- Hand Hygiene: HS.IC/019
- Medical Devices Decontamination: HS.IC/022
- Policy and Procedure for the Reporting & Management of Accidents, Incidents and Near Misses: RM/002

**Equality Impact Assessment:** The Equality Impact Assessment Form was completed on 23rd August 2013

**Training Requirements:** Annual mandatory training in syringe driver use.

*The organisation trains staff in line with the requirements set out in its training needs analysis and published in its Corporate Curriculum.*

*Training which is categorised as statutory or essential must be completed in line with the training needs analysis and Corporate*
Curriculum.
Compliance with statutory and essential training is monitored through the Learning and Development team with monthly manager's reports and staff individual training records twice yearly. Training reports are also submitted quarterly through the Trust Quality and Governance Committee Meeting. Staff failing to complete this training will be accountable and could be subject to disciplinary action.

<table>
<thead>
<tr>
<th>Monitoring Arrangements:</th>
<th>Annual audit of staff training.</th>
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<tbody>
<tr>
<td>Implementation:</td>
<td>Will be introduced at the Paediatric forum once ratified by the Trust.</td>
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**Version Control**

<table>
<thead>
<tr>
<th>Version</th>
<th>Date Reviewed</th>
<th>Changes</th>
<th>By Whom</th>
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<tr>
<td>v1</td>
<td>15 August 2013</td>
<td>New document</td>
<td>J. Gowans</td>
</tr>
<tr>
<td></td>
<td>January 2017</td>
<td>Extended 6 months</td>
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This document **can** be released under the Freedom of Information Act.

This document can be accessed and printed via the Intranet Document Library and the Trust Website.
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1. **Introduction**

1.1. The use of injectable medication has many healthcare benefits for patients. The complexities associated with the prescription, preparation and administration of injectable medicines means that there are greater potential risks for patients than for other routes of administration. Weak operating systems increase the potential risk of harm, and safe systems of work are needed to minimise these risks.

1.2. Syringe drivers are commonly used for the administration of drugs via the subcutaneous route in order to enhance symptom management.

1.3. These drugs include opiates, anti-emetics, sedatives, non-steroidal anti-inflammatory drugs, anti-convulsants and anti-secretary agents. Syringe drivers are also used in the management of other pathologies.

1.4. In this way treatment can be planned and delivered at a regular rate for periods up to 24 hours.

1.5. This version supersedes any previous versions of this document.

2. **Purpose of this Policy / Procedure**

2.1. The purpose of this document is to inform health professionals on the correct, safe and appropriate use of the McKinley T34 syringe driver for subcutaneous infusions.

2.2. Syringe driver training is an annual mandatory requirement within the Cornwall Health Care Community. Only registered nurses and health professionals that have received the appropriate training may use a syringe driver.

2.3. If no such healthcare professional is available, the drugs will be prescribed to be administered by intermittent injection until a syringe driver can be commenced.

3. **Scope**

3.1. It is aimed at healthcare professionals that are involved in the setting up and management of syringe drivers, and the prescribing and administration of syringe driver medication.

4. **Definitions / Glossary**

**ANTT**- Aseptic non-touch technique

**McKinley T34 syringe driver**- dedicated subcutaneous syringe driver

**Neria soft set**- Subcutaneous insertion device and delivery system

**Occlusion**- closure or blockage.

5. **Ownership and Responsibilities**

5.1. **Role of the Managers**

5.2. Line managers are responsible for required to ensure all of the team for which they are responsible have undertaken training in accordance to relevant medical devices training guidelines.
5.3. Role of the Quality, Safety Executive Committee

The T34 Group / Committee is responsible for:

- Reviewing and updating the policy.
- Engaging with the multidisciplinary team to ensure the policy remains relevant to all users.
- Ensuring that all users are aware of any updates or training required.

5.4. Role of Individual Staff

All staff members are responsible for:

- Their own practice.
- For ensuring that they undertake the appropriate training to carry out this procedure
- Maintaining their competencies in accordance with their regulatory body.

This must also be in accordance with the Standards for medicines management (Nursing & Midwifery Council 2008).

It is every practitioner’s accountability and responsibility to ensure they have received training prior to using a T34 Syringe Driver.

Usage of a T34 driver without relevant training is not permitted under any circumstances.

6. Standards and Practice

6.1. Indications for Use

6.2. Continuous subcutaneous infusion should not be used indiscriminately, without prior consideration of other alternative routes of administration, for example, rectal, sublingual or transdermal routes.

6.3. Therapeutic Advantages:

- It is possible to achieve stable plasma concentrations over time facilitating symptom control
- Therapies can be planned and delivered over a 24 hour period avoiding the need for 4 hourly injections
- A combination of drugs can be administered in the same syringe subject to compatibility guidelines in the Association of Paediatric Palliative Medicine Master Formulary (2012)
- If more than four drugs need to be combined then seek advice regarding compatibility form RCHT medicines information unit on 01872 252587.

Criteria for Use:

6.4. Situations in which the patient is not able to swallow or absorb oral medication. For example:

- Persistent nausea and vomiting
• An intolerance of oral administration of drugs
• Difficulty in swallowing
• Poor alimentary absorption
• Intestinal obstruction
• Comatose / moribund patient
• Profound weakness
• In order to reduce respiratory or gastrointestinal secretions

6.5. Preparation for use

6.6. Consent is obtained as per Trust Consent Policy for Children and Young People.

6.7. When a syringe driver is commenced the health professional must explain what oral drugs, if any, should be continued or discontinued.

6.8. Equipment required:

• Prescription chart or Syringe driver medication sheet.
• McKinley T34 syringe driver.
• Prescribed medication including diluents.
• Syringe driver label stating medication, dose, route of administration, diluents, final volume, and patient’s name, date of birth, date, time, and signature of healthcare professional.
• 9v alkaline battery (rechargeable batteries are not to be used) McKinley recommend Duracell MN1604.
• Spare battery to be available.
• Appropriate size luer lock syringe – 10ml, 20ml or 30ml.
• 1ml, 2ml or 5ml syringes should be available in case any one-off doses are required.
• Selection of needles for drawing up and giving subcutaneous or intramuscular drugs if needed.
• Neria soft set 13mm, 110cm long.
• Sharps disposal bin and denaturing kit for controlled drugs. The denaturing kits can be obtained through EROS (KYA003 for the 250mls and KYA004 for 1litre).
• Driver Lockbox and key.

6.9. NB If batteries need to be transported ensue they are carried in a container where they cannot touch each other or anything metal

6.10. Preparation of site and needle insertion

6.11. Explain the procedure and gain consent as appropriate.

6.12. The following sites are the most commonly used as there tends to be more subcutaneous fat present:

• Anterior aspect of upper arms.
• Anterior chest wall.
• Anterior abdominal wall.
• Anterior aspect of upper thigh.
• Scapula area.
6.13. The following sites are contraindicated:

- Any lymphoedematous area because absorption is affected and risk of infection.
- Areas of damaged skin e.g. broken, reddened or bruised skin, area of indentation or pressure area.
- Any area currently or recently receiving radiotherapy.
- Any area over a bony prominence or near a joint as there is little subcutaneous tissue and can easily be dislodged.
- Consider physical activity of the child when choosing site.

6.14. Apply local anaesthetic cream to the area which has been selected (Ametop or Emla) and follow manufacturers’ guidelines.

6.15. Inserting the Neria soft cannula:

- The injection site should be cleaned thoroughly with ChoraPrep and allowed to dry.  
  **NB** Please check patient has no allergy to Chlorhexidine, contact Infection Control team for advice if Chlorhexidine is contraindicated.
- Remove the front half of the backing paper from the adhesive tape, folding it backwards and hold using your index finger.
- Using an ANTT, remove the plastic cover from the needle, grasp the skin firmly but gently and insert the needle at a 30 degree angle.
- Carefully smooth out the front half of the backing paper onto the skin.
- Remove the introducer needle by gently pressing the side clips with two fingers while simultaneously withdrawing the introducer needle. Dispose of the sharp appropriately.
- Remove the back side of the backing paper and smooth out the white adhesive tape to make sure good skin contact is achieved.

6.16. The syringe driver

6.17. The syringe driver currently in use for Paediatrics is the McKinley T34.

6.18. The syringe driver is a portable, battery-operated device for mechanically delivering drugs at a predetermined rate by continuous subcutaneous infusion. This policy refers only to drugs being delivered subcutaneously.

6.19. Syringe drivers work by pushing fluid contained in a syringe into an administration set and thence into the subcutaneous tissue.

6.20. The McKinley T34 will be secured in a locked box (supplied with the driver). The key to unlock will be held by the registered practitioner. Keys will not be left at Patient’s homes.

6.21. The health professional is responsible for checking the date of the last annual service of the syringe driver and documenting appropriately.

6.22. The setting up of a syringe driver is a clean technique and hands should be washed as per Hand Hygiene policy, with the wearing of personal protective equipment as per Infection Control Standard Precautions – Use of Personal Protective Equipment.
Explanation is given to the patient and carers regarding the purpose and function of the syringe driver as appropriate.
This is another opportunity to gain consent.
Calculate the volume of drugs to be administered before dilution, write this calculation down in appropriate documentation and obtain an independent check by another qualified healthcare professional where possible.

6.23. Initial set up

6.24. At the initial set up of a syringe driver infusion two nurses/healthcare professionals must check and sign that they have undertaken the procedure.

- Check / read prescription. Ensure drug, dosage, rate, Doctor's signature and date are all legible. Ensure drugs, dosages are within acceptable parameters. Ensure patient details are clear and legible on the prescription.
- Draw up TWO syringes of the medication into the appropriate size syringe. It is considered best practice to make the solution as dilute as possible to reduce the likelihood of drug incompatibility and minimise site irritation. Therefore, if child's clinical condition / size allows, use diluents to draw fluid volume up to:
  - 10ml in a 10ml syringe
  - 17ml in a 20ml syringe
  - 23ml in a 30ml syringe

6.25. McKinley recommends not putting volumes larger than the above within syringes.

6.26. Water for injections is the diluents of choice except for those drugs listed as incompatible or unstable with water in the Association of Paediatric Palliative Medicine Master Formulary (2012)

6.27. If further advice is needed, telephone Royal Cornwall Hospitals NHS Trust (RCHT) medicines information unit on 01872 252587. The out of hours on call pharmacists can be contacted via switchboard at Royal Cornwall Hospital (01872 250000).

6.28. The solution in the syringe should be clear and free from precipitation and / or crystallisation for the twenty four hours over which the drug is to be delivered. Please note that when using Dexamethasone the solution becomes cloudy but then clears.

6.29. If cloudiness or precipitation remains a problems the syringe and its contents should be discarded and the prescriber informed as the regime may need to be reviewed. This can be done in consultation with the Consultant Paediatrician or Children’s Hospice Doctor.

- Label the syringe (not the driver or plastic case) without obscuring the scale on syringe.
- Syringe driver labels should contain the following information:-
  - Name of the medicines
  - Dose
  - Route of administration
  - Diluents and final volume
  - Patient’s name and date of birth
  - Start time
6.30. Priming the line

- With the **first** prepared syringe manually prime the Neria soft set, the rest of this syringe needs to be wasted in a denaturing kit and recorded on stock sheet.
- Attach the **second** syringe to the primed line.
- Insert battery into compartment in the McKinley T34, no syringe in place, screen blank and arm down.
- Press and hold on / off key until start up screens appear.
- Wait until pre-loading has finished (actuator stops moving).
- Check battery life, press blue info button until “battery level” displayed on screen, press yes to display. If battery level is not 33% or above discard and use a new battery. **33% is the minimum required to deliver twenty four hours of medication.**
- Use the FF / Back keys to move the actuator to the correct position for syringe loading. Load syringe.
- Select or confirm (“YES”) syringe size and brand.
- Check and document the rate setting displayed on the screen over twenty four hours.

**10ml** in a 10ml syringe, giving a rate of 0.42mls/hr (+/- 0.02mls/hr) over 24 hours

**17ml** in a 20ml syringe, giving a rate of 0.71mls/hr (+/- 0.02mls/hr) over 24 hours

**23ml** in a 30ml syringe, giving a rate of 0.96mls/hr (+/- 0.02mls/hr) over 24 hours

- Press YES to confirm acceptance.
- Attach primed line to the Neria cannula.
- Press “YES” to start infusion.
- Ensure pump delivering is displayed on screen and light is flashing.
- Place the McKinley syringe driver in the ‘lock box’ and lock.
- Dispose of all sharps safely checking the empty ampoules before discarding as per Generic Waste Management Policy.

6.31. Subsequent syringe changes (without any changes to prescribed drugs)

6.32. **NB** When there are changes to the drug regime a new connector set must be used and set up as per initial set up.

- Draw up new twenty four hour infusion as prescribed.
- Press stop and hold the off button until the screen is blank.
- Remove syringe, arm down.
- Press and hold on / off key until start up screens appear.
- Wait until pre-loading has finished (actuator stops moving).
- Check battery life, press blue info button until “battery level” displayed on screen, press yes, if battery level is not 33% or above discard and use a new battery. 33% is the minimum required to deliver twenty four hours of medication.
- Load syringe. When positioned correctly all sensors stop flashing. Use the FF/Back keys to move the actuator to the correct position for syringe loading.
- Select syringe brand or Confirm (“YES”) syringe size and brand.
Check and document the rate setting displayed on the screen over twenty four hours.

10ml in a 10ml syringe, giving a rate of 0.42mls/hr (+/- 0.02mls/hr) over 24 hours

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Press YES to confirm acceptance.
Attach primed line to the Neria cannula.
Press “YES” to start infusion.
Ensure pump delivering is displayed on screen and light is flashing.
Place the McKinley syringe driver in the ‘lock box’ and lock.
Dispose of all sharps safely checking the empty ampoules before discarding as per Generic Waste Management Policy.

6.33. Changes to Prescribed drugs

6.34. If changes are made to the prescribed drugs, then the syringe and infusion line must be replaced.

6.35. To do this you will need to follow the initial set up.

6.36. The ‘old’ line and syringe must be discarded as per Generic Waste Management Policy.

6.37. To lock / Unlock the keypad

6.38. The McKinley T34 syringe pump allows users to lock the operation of the keypad during infusion. This function should be used to prevent tampering with the device. To activate the keypad lock, press and hold the INFO key until a chart is displayed showing a ‘progress’ bar moving from left to right. Hold the key until the bar has moved completely across the screen and a beep is heard to confirm the lock had been activated.

6.39. Drug Compatibilities

6.40. Consideration must be given to drug compatibility guidelines in the Association of Paediatric Palliative Medicine Master Formulary (2012).

6.41. Or advice can be sought from CFT Chief Pharmacist or Royal Cornwall Hospital Pharmacy Medicines Information Unit on 01872 252587.

6.42. Drug incompatibility can lead to precipitation, which may result in blocked cannula and inflammation at the insertion site. It is advised that no more than four drugs should be mixed in one syringe.

6.43. The absence of cloudiness does not always guarantee compatibility or stability.

6.44. Observation and Monitoring of Infusion.

6.45. Children that are inpatients in RCHT, checks on the pump and infusion site should be undertaken four times per 24hour period and be recorded on the check sheet (see section
6.46. If the syringe driver should occlude at any time during the infusion, the time of the occlusion should be recorded on the check sheet. Further information on how to manage an occlusion is in the trouble shooting section of this document.

6.47. Children being nurse in the community should have their pumps and infusion site checks completed at the time of the visit. This must be documented on the check sheet (see section 7). Any subsequent visits made by a health professional, who is trained in the management of syringe drivers.

6.48. Where appropriate, an adult, such as a parent, who has responsibility for the child, may be instructed on checking that the infusion is running correctly and there are no problems with the infusion site. They will need to understand how to contact the Nurse between visits if they are concerned. Any instruction given to a responsible adult must be documented in the child’s records.

6.49. Re-siting and Skin Reactions

6.50. The following action is required for patients who experience a painful inflammatory reaction:

- Change needle site – this should be at least 5cm away from the last site.
- Reduce the concentration of the irritant drug by using more dilution or having a reduced dose prescribed (the size of syringe will need to be changed).
- Give irritant drug by another route.
- Change irritant drug.
- Ensure that the needle is not inserted too superficially and that it does penetrate the subcutaneous layer.

6.51. NB if the device is re-sited, then the giving set should also be replaced.

6.52. Troubleshooting


6.54. If a syringe driver infusion runs through too slowly:

- Check the position of the child in relation to the insertion site.
- Check record sheet to confirm volume in syringe and time commenced.
- Check giving set for kinking.
- Check infusion site for displacement/leakage or inflammation.
- Check contents of syringe for precipitation or crystallisation.
- Check syringe is secured properly on syringe driver.
- Check infusion rate visually.
- Check battery working using the functions of the McKinley T34.
- Check start function has been commenced.
- Check position of syringe driver – if positioned too low.
• Check the event log on the McKinley T34.

6.55. If a syringe driver infusion runs through too quickly:

• Check record sheet to confirm volume in syringe and time commenced.
• Check infusion rate.
• Check position of syringe driver – if positioned too high.
• Exchange syringe driver and send to medical physics for servicing, appropriately labelled with the cause for concern. Keep a record of the asset number.

6.56. If the syringe driver has an occlusion:

• Check the infusion line for crystallisation or kinking
• Check the insertion site for infiltration or extravasations
• If there are no obvious reasons for the occlusion, start the pump again.
• If the pump occludes a second time within one hour or less of the first occlusion, repeat steps 1 and 2 and check the delivery volume. If there are no obvious reasons for the occlusion contact medical team for advice. The line or pump may need to be changed.

6.57. Stock management

6.58. An accurate record on the drugs kept at the home should be maintained using the Controlled Drug Stock Record (see section 10). Stock checks should occur on arrival at the home and after administration of medication. Records should include details of amount administered / received into the home, batch numbers and amounts of drug discarded into the denaturing kit. Wasted medication should be destroyed as per the relevant Trust’s Generic Waste Management policy.

6.59. Discharges and transfers to / from inpatient setting

6.60. Children leaving RCHT with a T34 syringe driver, a MD11 (see section 8) form should be completed and faxed to the Equipment Library.

6.61. If a patient is transferred with a syringe driver unfamiliar to the staff receiving the patient (into the community, hospital, hospice or other care setting) it should be exchanged for one they have received training on immediately. This pump should then be treated as if an initial set up and procedures followed accordingly.

6.62. Carriage of Drugs in a Community Setting

6.63. Although responsibility lies with the relative / carer to obtain medication and/or controlled drugs, health care professionals may in exceptional circumstances and in the best interest of the patient, transport prescribed medication and controlled drugs to a patient’s home. Drugs should be taken directly from the pharmacy in the locked drug transit bag to the patient’s home and carried in the boot of the car.

6.64. The new drugs should then be recorded on the stock sheet.

6.65. Discontinuing infusion at time of death.

6.66. **Expected death:** Keypad lock off, stop infusion and switch Syringe driver off. Syringe
driver to be left in situ until death has been verified / certified. Waste medicines, witnessed by person certifying death

6.67. **Unexpected death / Death being reported to Coroner:** Leave the syringe driver in situ, but remove the battery to stop the infusion. Ensure that all the professionals dealing with the body are aware the syringe pump is still in situ.
### Check sheet for McKinley T34 syringe driver for subcutaneous use

<table>
<thead>
<tr>
<th>Patients Name:</th>
<th>NHS/CR number: (ID sticker)</th>
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#### Rationale for checks

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<tbody>
<tr>
<td>Starting time</td>
<td>Commencement / change of syringe</td>
</tr>
<tr>
<td>Site</td>
<td>Appropriate placement / intact / no pain / no inflammation / no discharge</td>
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<tr>
<td>Position</td>
<td>Syringe driver must be level with patients trunk</td>
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<tr>
<td>Connections</td>
<td>Luer lock / secure / no leaks</td>
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<tr>
<td>Syringe (approximate volume remaining)</td>
<td>Record the volume to be infused, to check whether delivery is correct</td>
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<tr>
<td>Rate</td>
<td>Chart current rate, to ensure correct dose</td>
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<tr>
<td>Stability of solution</td>
<td>Clear / colourless / no crystallization / protected from light</td>
</tr>
<tr>
<td>Battery level</td>
<td>Press INFO key, then YES key. Replace battery when 33% or below</td>
</tr>
<tr>
<td>Occlusions</td>
<td>If occlusion alarms, record how many times in that period</td>
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</tbody>
</table>

If any alteration to rate or syringe is made please complete checklist at that time.
PLEASE INITIAL BOX AFTER CHECKING

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<tr>
<td>Connections</td>
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<tr>
<td>Syringe (Volume to be infused)</td>
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<tr>
<td>Rate (as displayed on machine)</td>
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<tr>
<td>Stability of solution</td>
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<tr>
<td>Battery level</td>
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<tr>
<td>Occlusions</td>
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</tbody>
</table>

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<tr>
<th>Date:</th>
<th>Start Time:</th>
<th>Time:</th>
<th>Time:</th>
<th>Time:</th>
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<tbody>
<tr>
<td>Site</td>
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<td>Position</td>
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<td>Connections</td>
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<td>Rate (as displayed on machine)</td>
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<td>Occlusions</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Date:</th>
<th>Start Time:</th>
<th>Time:</th>
<th>Time:</th>
<th>Time:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site</td>
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<td>Position</td>
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<td>Connections</td>
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<td>Syringe (Volume to be infused)</td>
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<tr>
<td>Rate (as displayed on machine)</td>
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<tr>
<td>Stability of solution</td>
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<td>Battery level</td>
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</tr>
<tr>
<td>Occlusions</td>
<td></td>
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</tr>
</tbody>
</table>
6.69. Record Sheet for Issuing Medical Device for use outside RCHT (MD11)

1) Training Requirements

Staff member and end user should ensure all items on this list are covered.

<table>
<thead>
<tr>
<th>1. Pre-checks</th>
<th>Before use, ensure device is safe to use and perform any maintenance checks required</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. General use</td>
<td>Be aware of the capabilities of the device and it's clinical use, and how to check it during use</td>
</tr>
<tr>
<td>3. Faults/alarms</td>
<td>Know about any common faults and errors with use and the actions to take in the event of any alarms</td>
</tr>
<tr>
<td>4. Cleaning</td>
<td>Appropriate cleaning process between use</td>
</tr>
<tr>
<td>5. Contacts</td>
<td>General contact numbers for routine enquires and emergency contact numbers in case of faults or alarms which cannot be resolved</td>
</tr>
<tr>
<td>6. Return</td>
<td>Method of returning the device after use, or for routine service</td>
</tr>
<tr>
<td>7. Consumables</td>
<td>Information of how to obtain additional accessories for the device</td>
</tr>
</tbody>
</table>

2) Confirmation of Training and Identification of Device

<table>
<thead>
<tr>
<th>Item Issued :</th>
<th>(Manufacturer and serial / ID number)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Destination of item:</td>
<td>(e.g. patient’s home / district / hospice)</td>
</tr>
<tr>
<td>Agreed date of review / return:</td>
<td></td>
</tr>
<tr>
<td>Last Service Date</td>
<td>(please note if service is required within loan period):</td>
</tr>
</tbody>
</table>

We, the undersigned, agree that training and information about the medical device to be issued has been given and understood.

Staff member performing training:

**PATIENT (OR PERSON TAKING RESPONSIBILITY FOR ITEM) CONFIRMATION:**

I understand that this medical device is for named patient’s use only. I have been given clear explanation (& written instructions) of its use.

I will take reasonable care of it and report any faults to:

**PLEASE PRINT AND SIGN YOUR NAME:**

<table>
<thead>
<tr>
<th>Name of person receiving device (please note if district nurse / hospice):</th>
<th>Date:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient NHS Number (&amp; address)</td>
<td></td>
</tr>
</tbody>
</table>
3) **Storage of Form**

   i. **Keep original form in Patient notes** as evidence of training given *(copy may be given to patient)*
   
   ii. **Record loan of any ward / RCHT device in separate folder** & confirm its return
   
   iii. **Equipment Library Device? :-Fax form to Equipment Library via FAX 2909.**
       
       Equipment Library will record loan and confirm return of device to RCHT

4) **Return of Loan Equipment**

   **THIS ITEM IS ON LOAN FROM THE ROYAL CORNWALL HOSPITAL.**
   
   Please return it promptly.

<table>
<thead>
<tr>
<th>Item returned to (location)</th>
<th>Received by (staff to PRINT name)</th>
<th>Date of return</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
This page has been left blank for any additional notes staff may need to make.
### 6.70. Prescription chart

<table>
<thead>
<tr>
<th>Patient Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>NHS No.</td>
</tr>
<tr>
<td>Name:</td>
</tr>
<tr>
<td>Address:</td>
</tr>
<tr>
<td>Date of Birth:</td>
</tr>
<tr>
<td>Consultant (if applicable)</td>
</tr>
<tr>
<td>GP</td>
</tr>
<tr>
<td>Date Chart Started</td>
</tr>
</tbody>
</table>

**ALLERGIES** *(must be completed)*

<table>
<thead>
<tr>
<th>Weight (kg)</th>
</tr>
</thead>
</table>

### USEFUL PRESCRIBING INFORMATION

- When first commencing a syringe driver it can take 4-6 hours for all the medication to take effect. It is therefore important to prescribe s/c stat doses of all medicines required to manage pain relief and other symptoms.
- If a patient is on a transdermal opioid patch when initiating a syringe driver it should be continued in addition to the syringe driver.
- Diamorphine is the preferred subcutaneous opioid in palliative care unless there are specific clinical reasons to use an alternative. S/C diamorphine is equivalent to one third of the oral morphine dose.
- Please ensure when ordering drugs that for every dose change two syringes are made up to enable priming of the line, therefore additional supplies will need to be ordered.

### COMPATABILITIES

- A combination of drugs can be administered in the same syringe subject to compatibility guidelines.
- In the Association of Paediatric Palliative Medicine Master Formulary (2012). If more than four drugs need to be combined then seek advice regarding compatibility form RCHT medicines information unit on 01872 252587.
- Water for injection is the normal diluent. For exceptions see appropriate guidance as listed above.
• NOTE: Cyclizine can precipitate with hyoscine butylbromide or high doses of diamorphine – change to another antiemetic if necessary.
• Syringes must be changed every 24 hours.

VOLUMES

• Prescribers should specify the volume the syringe driver should be made up to (10 mL, 17mL or 23mL). This should take into account the volumes of the drugs required to be drawn up.
• Syringe sizes should be selected according to the following criteria:

<table>
<thead>
<tr>
<th>Syringe size to be selected (mL)</th>
<th>Volume to be drawn up (mL)</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>10</td>
<td>0.42mls/hr (+/- 0.02mls/hr)</td>
</tr>
<tr>
<td>20</td>
<td>17</td>
<td>0.71mls/hr (+/- 0.02mls/hr)</td>
</tr>
<tr>
<td>30</td>
<td>23</td>
<td>0.96mls/hr (+/- 0.02mls/hr)</td>
</tr>
</tbody>
</table>
### SYRINGE DRIVER PRESCRIPTION

<table>
<thead>
<tr>
<th>Drug 1</th>
<th>Initial dose</th>
<th>Day 1</th>
<th>Day 2</th>
<th>Day 3</th>
<th>Day 4</th>
<th>Day 5</th>
<th>Day 6</th>
<th>Day 7</th>
</tr>
</thead>
<tbody>
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</tbody>
</table>

**If required & confirmed appropriate, future increased doses for symptom management**

1st increase | 2nd increase | 3rd increase |  
(Sign/date when commenced) |  

- **Diluent:** Water for injection  
  (if other delete and re-write)  
  Date  

<table>
<thead>
<tr>
<th>Drug 2</th>
<th>Initial dose</th>
<th>Volume</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tr>
</tbody>
</table>

**If required & confirmed appropriate, future increased doses for symptom management**

1st increase | 2nd increase | 3rd increase |  
(Sign/date when commenced) |  

- **Volume:** 10mL / 17mL / 23mL  
  (Delete as appropriate)  
  Date  

<table>
<thead>
<tr>
<th>Drug 3</th>
<th>Initial dose</th>
<th>Route</th>
<th>Prepared by:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

**If required & confirmed appropriate, future increased doses for symptom management**

1st increase | 2nd increase | 3rd increase |  
(Sign/date when commenced) |  

- **Route:** Continuous subcutaneous infusion via syringe driver over 24 hrs  
  Prepared by:  
  Date  

<table>
<thead>
<tr>
<th>Drug 4</th>
<th>Initial dose</th>
<th>Compatibility &amp; appropriateness to commence checked</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

**If required & confirmed appropriate, future increased doses for symptom management**

1st increase | 2nd increase | 3rd increase |  
(Sign/date when commenced) |  

- **Compatibility & appropriateness to commence checked**  
  Date  

**Prescribers signature:**

**Print name:**

**Contact details:**

---

**Stopped by:**

---

**Cornwall Partnership**

**NHS Foundation Trust**

**Document Reference Code:** CG/042/13

---

*Page 21 of 29*
6.71. Stock and waste record

Patient Name:  
NHS Number:  

Drug & Concentration

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Stock received into home</th>
<th>No. ampoules used</th>
<th>Amount discarded</th>
<th>Batch number</th>
<th>Signature</th>
<th>Balance</th>
</tr>
</thead>
<tbody>
<tr>
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</tbody>
</table>

Total amount disposed of:  

Signature 1:  
Signature 2:
7. **Dissemination and implementation**

7.1. A copy of the policy will be stored electronically in the paediatric section of the Trust's document library on the internet / intranet site.

7.2. A clear communication will be sent to managers to make them aware that the policy has been issued and that they are responsible for cascading the information to their staff members, including staff members who do not have regular access to email.

8. **Monitoring compliance and effectiveness**

<table>
<thead>
<tr>
<th>Element to be monitored</th>
<th>Lead</th>
<th>Full adherence to the policy</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Tool</strong></td>
<td>CLIC and Acute Paediatric Pain Service</td>
<td></td>
</tr>
<tr>
<td>An agreed audit tool developed by the Directorate and registered with clinical effectiveness as part of the annual records audit, to include the elements to be monitored described above. Datix will also be monitored.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Frequency</strong></td>
<td>2 yearly retrospective audits of patients who have required a subcutaneous infusion will be carried out.</td>
<td></td>
</tr>
<tr>
<td><strong>Reporting arrangements</strong></td>
<td>Audits will be reported via the Divisional Audit and Guidelines meeting in the Directorate. Action plans, incidents and complaints related to discharge and transfer will be brought back to the Directorate via Clinical Governance meetings.</td>
<td></td>
</tr>
<tr>
<td><strong>Acting on recommendations and Lead(s)</strong></td>
<td>Ward managers and lead nurses Community Matron for children’s services</td>
<td></td>
</tr>
<tr>
<td><strong>Change in practice and lessons to be shared</strong></td>
<td>Lessons will be shared with all the relevant stakeholders by presentation at Child Health audit and guidelines meetings and via the Child Health risk management newsletter. Following liaison with relevant stakeholders, any required changes to practice will be discussed at Directorate Clinical Governance meetings, prior to being reflected in this policy and implemented clinically. Required changes to practice will be identified and actioned within 8 weeks. A lead member of the team will be identified to take each change forward where appropriate.</td>
<td></td>
</tr>
</tbody>
</table>

9. **Updating and Review**

9.1. The policy will be reviewed every three years.

9.2. Revisions may be made ahead of the review date when the procedural document requires updating. Where the revisions are significant and the overall policy is changed, the revised document is taken through the standard consultation, approval and dissemination processes.

9.3. If the revisions are minor, e.g. amended job titles or changes in the organisational structure, approval can be sought from the Executive Director responsible for signatory approval, and can be re-published accordingly without having gone through the full consultation and ratification process.

9.4. Any revision activity will be recorded in the Version Control Table as part of the document
10. **Equality and Diversity**

10.1. This document complies with the Royal Cornwall Hospitals NHS Trust service Equality and Diversity statement.

10.2. **Equality Impact Assessment**

10.3. The Initial Equality Impact Assessment Screening Form is at Appendix 2.
### Equality Impact Assessment Proforma Initial Screening

<table>
<thead>
<tr>
<th>Section</th>
<th>Officer responsible for the assessment</th>
<th>Joan Gowans</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name of Procedural document to be assessed</td>
<td>Date of Assessment</td>
<td>23rd August 2013</td>
</tr>
<tr>
<td>The Policy and Procedure for the Management of Subcutaneous Infusions in Children</td>
<td>23rd August 2013</td>
<td>Is this a new or existing procedural document?</td>
</tr>
</tbody>
</table>

1. Briefly describe the aims, objectives and purpose of the procedural document.
   - The purpose of the document is to inform health professionals (Including RCHT staff) on the correct, safe and appropriate use of the McKinley T34 syringe driver for subcutaneous infusions.

   - The objective is to standardise the care and minimise risk for the children when receiving subcutaneous infusion, regardless of which organisation employs the staff.

3. Who is intended to benefit from this procedural document, and in what way?
   - Children and young people by reducing the risk of harm and enhance symptom management.

4. What outcomes are wanted from this procedural document?
   - Standardisation of care, reduction of clinical risk and enhanced symptom management.

5. What factors/forces could contribute/detract from the outcomes?
   - No appropriately trained staff available to administer the infusion.

6. Who are the main stakeholders in relation to the procedural document?
   - Children, young people and paediatric staff.

7. Who implements the procedural document, and who is responsible for the procedural document?
   - Professional Lead for Paediatrics / Responsibility will lie with the Nurse Consultant for Paediatrics.

8. Are there concerns that the procedural document could have a differential impact on RACIAL groups?
   - N
   - Please explain

What existing evidence (either presumed or otherwise) do you have for this?
<table>
<thead>
<tr>
<th>Question</th>
<th>Yes/No</th>
</tr>
</thead>
<tbody>
<tr>
<td>9. Are there concerns that the procedural document <strong>could</strong> have a differential impact due to GENDER?</td>
<td>N</td>
</tr>
<tr>
<td>What existing evidence (either presumed or otherwise) do you have for this?</td>
<td></td>
</tr>
<tr>
<td>10. Are there concerns that the policy <strong>could</strong> have a differential impact due to DISABILITY?</td>
<td>N</td>
</tr>
<tr>
<td>What existing evidence (either presumed or otherwise) do you have for this?</td>
<td></td>
</tr>
<tr>
<td>11. Are there concerns that the policy <strong>could</strong> have a differential impact due to SEXUAL ORIENTATION?</td>
<td>N</td>
</tr>
<tr>
<td>What existing evidence (either presumed or otherwise) do you have for this?</td>
<td></td>
</tr>
<tr>
<td>12. Are there concerns that the procedural document <strong>could</strong> have a differential impact due to their AGE?</td>
<td>N</td>
</tr>
<tr>
<td>What existing evidence (either presumed or otherwise) do you have for this?</td>
<td></td>
</tr>
<tr>
<td>13. Are there concerns that the procedural document <strong>could</strong> have a differential impact due to their RELIGIOUS BELIEF?</td>
<td>N</td>
</tr>
<tr>
<td>What existing evidence (either presumed or otherwise) do you have for this?</td>
<td></td>
</tr>
<tr>
<td>14. Are there concerns that the procedural document <strong>could</strong> have a differential impact due to their MARRIAGE OR CIVIL PARTNERSHIP STATUS? (This MUST be considered for employment policies).</td>
<td>N</td>
</tr>
<tr>
<td>What existing evidence (either presumed or otherwise) do you have for this?</td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>15. Are there concerns that the procedural document <strong>could</strong> have a differential impact due to GENDER REASSIGNMENT OR TRANSGENDER ISSUES?</td>
<td>N</td>
</tr>
<tr>
<td>16. Are there concerns that the procedural document <strong>could</strong> have a differential impact due to PREGNANCY OR MATERNITY?</td>
<td>N</td>
</tr>
</tbody>
</table>
| 17. How have the Core Human Rights Values of:  
  - Fairness;  
  - Respect;  
  - Equality;  
  - Dignity;  
  - Autonomy  
Been considered in the formulation of this procedural document/strategy  
If they haven't please reconsider the document and amend to incorporate these values. |  |
18. Which of the Human Rights Articles does this document impact? | The right: |
|---|---|
| N | - To life;  
- Not to be tortured or treated in an inhuman or degrading way;  
- To be free from slavery or forced labour;  
- To liberty and security;  
- To a fair trial;  
- To no punishment without law;  
- To respect for home and family life, home and correspondence;  
- To freedom of thought, conscience and religion;  
- To freedom of expression;  
- To freedom of assembly and association;  
- To marry and found a family;  
- Not to be discriminated against in relation to the enjoyment of any of the rights contained in the European Convention;  
- To peaceful enjoyment of possessions and education;  
- To free elections |

What existing evidence (either presumed or otherwise) do you have for this?  

How will you ensure that those responsible for implementing the Procedural document are aware of the Human Rights implications and equipped to deal with them?  

19. Could the differential impact identified in 8 – 13 amounts to there being the potential for adverse impact in this procedural document? | N | Please explain |

20. Can this adverse impact be justified on the grounds of promoting equality of opportunity for one group? Or any other reason? | N | Please explain for each equality heading (questions 8 –13) on a separate piece of paper. |

If Yes, describe why, and then proceed to a full EIA.
<table>
<thead>
<tr>
<th></th>
<th>Should the procedural document proceed to a full equality impact assessment?</th>
<th>(\text{N})</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>If No, are there any minor further amendments that should take place?</td>
<td></td>
</tr>
<tr>
<td>22.</td>
<td>If a need for minor amendments is identified, what date were these completed and what actions were undertaken</td>
<td>(\text{N})</td>
</tr>
</tbody>
</table>

Signed (completing officer)  
Joan Gowans  
Date 15/11/13

Signed (Service Lead)  
Date  

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