

PROCEDURE FOR SETTING UP T34 SYRINGE DRIVER

PRESCRIBING INFORMATION & DOCUMENTS REQUIRED:

- All medications given via a syringe driver should be clearly and correctly prescribed on a prescription chart.
- In the community an Authority for Administration of Prescribed Medication via Continuous Subcutaneous Infusion should be used.
- All patients should be prescribed breakthrough analgesia to have on a prn basis. In the community these medications should be prescribed on an Authority for Administration of Prescribed Medication.
- Syringe driver check list (community) or Syringe Driver Observation chart (Hospice/Hospital)
- Community subcutaneous medications record sheet

EQUIPMENT REQUIRED:

- Prescribed medication
- Saf-T-intima cannula
- Codan extension set (BC576) 152 x 0.35ml
- Luer-Lok™ syringe (20 or 30ml) & needle
- T34 syringe driver
- 9V battery (a spare battery should also be available)
- Calculator
- Lockbox and key if needed
- Drug additive label
- Alcohol wipe
- Small tegaderm

PRACTICE POINTS:

- T34 syringe drivers are calibrated in ml per hour
- All T34 syringe drivers owned by Nurse Maude are locked on to 24 hour duration. An access code is required to alter the duration.
- Always use a Luer-Lok™ syringe to prevent risk of disconnection
- It is best practice to make the solution as dilute as possible

FOR ADVICE OR SUPPORT CONTACT:

- Christchurch Hospital Palliative Care Service
- Ext 81473 or see CDHB intranet site
- Or Ward 27 (oncology)

SETTING UP:

1. Collect the necessary equipment
2. Check the prescription chart
3. Draw up medications accurately as prescribed
4. Dilute with water for injection to: **18mls in a 20ml BD syringe** or **23mls in a 30ml BD syringe**
NB these are the maximum volumes that will fit in the syringe driver
5. Attach medication label to syringe
6. Attach syringe to extension set and manually prime the line. Apply the clamp to the infusion line
7. Insert a 9V battery into the battery compartment
8. Ensure the syringe driver is turned off and the barrel clamp is down
9. Press and hold the ON/OFF key. Wait until the LOAD SYRINGE screen appears
10. If the actuator is not in the correct position to hold the syringe use the FF or BACK keys to reposition
11. Lift and turn the barrel clamp and load the syringe into the pump ensuring the flange sits in the central slot and the plunger clicks into the actuator
12. Lower the barrel clamp
13. The screen will display the size and brand of syringe detected. If it is correct press YES to confirm. If not scroll with up and down arrows until the correct selection appears then press YES to confirm.
14. The next screen shows an infusion summary. Check that all the information on the screen is correct (use a calculator to check the rate) then press YES to confirm
15. The screen will display START INFUSION
16. Select a site and insert the cannula. Release the clamp on the infusion line
17. Press YES/START to commence the infusion
18. Support the syringe driver in a carry bag or a lockbox if needed
19. Complete documentation

TO STOP THE INFUSION:

1. A “NEAR END” message displays 15 minutes before the end of the infusion
2. When the infusion is completed the syringe driver stops automatically and an alarm will sound
3. To stop the infusion before the syringe is empty press the red STOP button then press and hold the ON/OFF button (wait for the beep)

OBSERVATIONS (4hrly in inpatient units and at each nurse visit in the community):

- Assess symptom management
- Check insertion site for leakage, irritation, inflammation, infection and needle displacement
- Check syringe and infusion set for precipitation or crystallisation
- Check the screen for rate and time remaining.
- Press INFO key once for volume to be infused (VTBI) and volume infused (VI).
- Press INFO key twice for battery remaining. In the community change the battery if 30% or less life remaining

Compatibility of drugs for use in syringe drivers over 24 hours of subcutaneous infusions	clonazepam	cyclizine	dexamethasone	fentanyl	glycopyrrolate	haloperidol	hyoscine butyl bromide (Buscopan™)	hyoscine hydrobromide	ketamine	methotrimeprazine/levomepromazine (Nozinan™)	methadone	metoclopramide	midazolam	morphine sulphate (normal strengths)	morphine tartrate (high strengths)	octreotide	ondansetron	oxycodone	phenobarbitone
clonazepam	-	SI	Y	?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	?	Y	?
cyclizine	SI	-	SI	SI	Y	Y	SI	Y	?	Y	?	Y	SI	Y	Y	SI	Y	SI	?
dexamethasone	Y	SI	-	?	?	SI	Y	Y	Y	SI	Y	Y	SI	Y	Y	SI	Y	Y	?
fentanyl	?	SI	?	-	Y	Y	Y	Y	Y	Y	?	Y	Y	?	?	Y	Y	?	Y
glycopyrrolate	Y	Y	?	Y	-	Y	?	NA	Y	Y	Y	Y	Y	Y	?	Y	Y	Y	N
haloperidol	Y	Y	SI	Y	Y	-	Y	Y	Y	Y	Y	Y	Y	Y	SI	Y	Y	Y	?
hyoscine butyl bromide (Buscopan™)	Y	SI	Y	Y	?	Y	-	NA	Y	Y	?	Y	Y	Y	?	Y	Y	Y	?
hyoscine hydrobromide	Y	Y	Y	Y	NA	Y	NA	-	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	?
ketamine	Y	?	Y	Y	Y	Y	Y	Y	-	Y	?	Y	Y	Y	Y	Y	Y	Y	?
methotrimeprazine/levomepromazine (Nozinan™)	Y	Y	SI	Y	Y	Y	Y	Y	Y	-	Y	Y	Y	Y	Y	SI	Y	Y	?
methadone	Y	?	Y	?	Y	Y	?	Y	?	Y	-	Y	Y	?	?	?	?	?	N
metoclopramide	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	-	Y	Y	Y	Y	Y	Y	?
midazolam	Y	SI	SI	Y	Y	Y	Y	Y	Y	Y	Y	Y	-	Y	Y	Y	Y	Y	?
morphine sulphate (normal strengths)	Y	Y	Y	?	Y	Y	Y	Y	Y	Y	?	Y	Y	-	NA	Y	Y	NA	?
morphine tartrate (high strengths)	Y	Y	Y	?	?	SI	?	Y	Y	Y	?	Y	Y	NA	-	?	Y	NA	Y
octreotide	Y	SI	SI	Y	Y	Y	Y	Y	Y	SI	?	Y	Y	Y	?	-	Y	Y	?
ondansetron	?	Y	Y	Y	Y	Y	Y	Y	Y	Y	?	Y	Y	Y	Y	Y	-	Y	?
oxycodone	Y	SI	Y	?	Y	Y	Y	Y	Y	Y	?	Y	Y	NA	NA	Y	Y	-	?
phenobarbitone	?	?	?	Y	N	?	?	?	?	?	N	?	?	?	Y	?	?	?	-

Diluent: Water is the recommended diluent for injection. Exclusion: Use 0.9% saline for infusions where any of the following drugs are being used on their own: ketamine, levomepromazine, octreotide, or ondansetron.

KEY:	Combinations that have been used		
Y = compatible	morphine+clonazepam+cyclizine (morphine sulphate and tartrate)	morphine+cyclizine+dexamethasone (morphine sulphate and tartrate)	morphine+dexamethasone+haloperidol (morphine sulphate and tartrate)
N = incompatible	morphine+clonazepam+dexamethasone (morphine sulphate and tartrate)	morphine+cyclizine+haloperidol (morphine sulphate and tartrate)	morphine+dexamethasone+hyoscine hydrobromide (morphine sulphate and tartrate)
SI = sometimes incompatible (usually at higher concentrations)	morphine+clonazepam+haloperidol (morphine sulphate and tartrate)	morphine+cyclizine+hyoscine butyl bromide (morphine sulphate, tartrate SI)	morphine+dexamethasone+metoclopramide (morphine sulphate and tartrate)
NA = not usually used together	morphine+clonazepam+ketamine (morphine sulphate and tartrate)	morphine+cyclizine+metoclopramide (morphine sulphate and tartrate)	morphine+dexamethasone+midazolam (morphine sulphate SI, tartrate SI)
? = unknown	morphine+clonazepam+metoclopramide (morphine sulphate Y, tartrate SI)	morphine+cyclizine+midazolam (morphine sulphate and tartrate)	morphine+dexamethasone+haloperidol (morphine sulphate and tartrate)

Info from:

- 1) The Palliative Care Handbook 6th Edition 2012 – 24 hour syringe driver compatibility for subcutaneous administration table.
- 2) Palliative Medicine Handbook on line at <http://book.pallcare.info/index.php>
- 3) Compatibility of syringe driver admixtures for continuous subcutaneous infusions, Department of Pharmacy, Auckland District Health Board 2002
- 4) Palliative Care Formulary on line at www.palliativedrugs.co.uk
- 5) Gardiner P R Compatibility of an injectable oxycodone formulation with typical diluents, syringes, tubings, infusion bags and drugs for potential co-administration. Hospital Pharmacist 2003; 10: 354-61

Approved by CD Palliative Care Service

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