

MS26 Syringe Driver Checklist

24 hour Continuous Subcutaneous Infusion (csci) Administration.

If you are unsure at any stage – ALWAYS CHECK. See Syringe driver Handbook, contact Pharmacy or specialist palliative care service such as Rowans Hospice, Countess Mountbatten or Ashdown 1)

CHECKLIST

1. Use 20ml Luer lok syringe as standard. (Occasionally 30ml size may be needed)
2. Check rate is at **48 mm/24hours** BEFORE you start. Do NOT Alter rate at any time.
48mm length of infusion in a 20ml syringe barrel is approx 14mls in volume.
The infusion will travel at a distance of 2mm every hour (so in 4 hours it will move by 8mm)
3. When you prime the Line, the infusion will ALWAYS finish EARLY.
Priming the line is carried out: (NB a new line & syringe should also be used each time)
 - a. On the first infusion – when setting up the driver.
 - b. After 72 hours when the line is change to a new one.
 - c. When MEDICATION is added or removed,
 - d. When the STRENGTH of any medication is INCREASED or DECREASED.
 - e. When you see skin reaction at injection site – e.g. oedema, patient complains of pain at injection area.
 - f. When you see the infusion in the syringe is discoloured or cloudy or crystals forming. (Discard and find out why it has happened. Check medications for compatibility – ie has the correct diluent been used etc.)
4. DILUENT: Dilute with NaCl 0.9%¹ generally. If unsure – check first.
 - a. EXCEPTION: use WATER when CYCLIZINE or HIGH dose DIAMORPHINE 40mg/ml (ie above 500mg Diamorphine) is administered. (Cyclizine will crystallize in normal saline)
5. CHECK DRUG COMPATIBILITY – are the prescribed medications to be used together in the syringe driver compatible? If in doubt – consult literature or pharmacy.
 - a. MAX 3 MEDICATIONS to be combined in the infusion in ONE syringe driver.

NOTE:

- b. Do not place MOBILE PHONE near the syringe driver.
- c. Cover syringe driver to protect against direct SUNLIGHT. Keep temperature below 25 C to minimise decomposition of solution. (Avoid putting it underneath blankets.)
- d. Do not leave medicines running in a syringe driver for longer than 24 hours.
- e. An Alkaline 9V battery will last approx 50 infusions (ie it will last over 1 month if used daily)
- f. Do not use boost button to 'boost' drugs.

SETTING UP SYRINGE DRIVER.¹

1. Fill Luer lok syringe with prescribed medication(s) and dilute the contents up to a maximum of 48mm in length (approx 14mls). Check the length of infusion with a ruler.
2. Check the rate on the syringe driver is 48 (mm/hr) and do not alter.
3. Prime the infusion line (if necessary).
Measure the volume left after priming the line and record it on the syringe driver chart.
4. Attach the syringe to driver
5. Insert battery to device. Alarm will sound. The same alarm will sound when: -
 - a. the infusion has ended
 - b. the tube has a kink, the needle or tubing is blocked or the plunger is jammed.
 - c. the start/boost button is depressed for 10 seconds.
6. Press start button to silence the alarm and activate driver.
The light on the driver will flash every 25 seconds, if it doesn't – replace battery.
7. Put the syringe driver inside the clear plastic lock box.
8. Ensure all the sections on the medication adhesive label are documented fully and the label is then attached to the syringe driver inside the plastic case.

EQUIPMENT

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| <ul style="list-style-type: none"> ▪ syringe driver Graseby MS 26 ▪ BD Luer Lok syringe – 20ml (or 30mls) ▪ Prescription chart ▪ Prescribed Medication(s) ▪ Diluent NaCl 0.9%, WFI sterile water for injections) ▪ Medication adhesive label ▪ Syringe driver chart | <ul style="list-style-type: none"> ▪ 9V Alkaline battery ▪ Orange 25 gauge needle ▪ Orange butterfly needle with tubing attached. ▪ Vapour permeable needle site dressings (e.g. IV 3000)⁵ ▪ Sharps box. ▪ Syringe driver plastic case ▪ Permeable adhesive tape(e.g. micropore) |
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Insertion of Winged Canula

1. Use 25 gauge butterfly needle. Insert winged canula at 45° angle to subcutaneous tissue.
2. Secure butterfly wings with tape. Make a small loop with infusion line and cover area with IV3000 needle site dressing. (To prevent accidental removal of needle)
3. Injection sites: chest wall, abdomen. For distressed patients – place around scapula. Rotate site every 3 days (when changing infusion line – or earlier if site reaction)
4. Monitor injection site and re-site as necessary.

MONITORING: -

1. Frequency: Minimum 4 hourly and document on the syringe driver clinical chart
2. The Patient: for pain level, sedation, respiration rate and control of symptoms and comfort.
3. Injection site – check for inflammation, soreness or swelling.
4. The infusion in the syringe barrel: for cloudiness, precipitation, colour changes.
5. The syringe driver is moving at the correct speed/rate – e.g. by 8mm every 4 hours. Use a ruler to measure – do not remove syringe from driver while infusion is in situ.

Take appropriate action if you suspect problem.

Medication stability^{2, 6}

Additive	Max additive In 20ml syringe	Max additive In 30ml syringe	NOTES ⁶ (from local guidance)
Cyclizine	100mg	150mg	Dilute with Water for injections only.
Haloperidol	20mg	25mg	30mg is reaching max – seek specialist advice
Metoclopramide	60mg	(85mg)	Discard if solution becomes discoloured
Midazolam	50mg	(60mg for seizure)	50mg is reaching max –seek specialist advice. For seizures 20 - 60mg csci/24hrs maybe needed

NB: at infusion rate 48mm/24hr (the length of fluid in 20ml syringe is ~14mls, for 30ml syringe it is ~17mls)

REFERENCES:

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3. Palliative Care Formulary 2nd edition 2002. Twycross R, Wilcock A, Charlesworth S and Dickman A. Radcliffe Medical Press
4. Royal Marsden 2004. 6th edition. (Accessed PCT intranet 28/6/07.) Chapter 9 Drug administration: delivery (infusion devices)
5. North East Hampshire Local Syringe Driver Policy for The Sims Graseby MS26. 3rd Edition June 2007. (IV 3000 dressings reduce inflammation at needle site – available from NHS Logistics)
6. Medicines used in Syringe Drivers for Palliative Care. Feb 2006. Portsmouth and SE Hants PCT Drug Therapy Guideline.

Author: Susan Chan, Clinical Pharmacist. Note this document has not been ratified by Hampshire PCT.