



# ALARIS AD Syringe Driver Procedure

Procedure Number

CHC-PM-0006

Version Nos:

1

## 1. Purpose

This Procedure outlines the process to be followed to ensure:

- the safe setting up and use of the AD Syringe Driver; and
- the correct procedure for the preparation and administration of medication to be given via an AD Syringe Driver; and
- the Nurse and patient understand this Procedure;

throughout the West Coast District Health Board (WCDHB).

## 2. Application

This Procedure is to be followed by all MIV Authorised staff, and/or a Registered Nurse or an Enrolled Nurse under the supervision of a Registered Nurse for subcutaneous infusion throughout the WCDHB.

## 3. Definitions

For the purposes of this Procedure:

*Prescribing* medications is the responsibility of the Doctor;

*Dispensing* medications is the role of the Pharmacist;

*Administration* of medications is undertaken by nurses.

## 4. Personnel Authorised to Perform Procedure

- WCDHB MIV Authorised clinical staff;
- Registered Nurse or an Enrolled Nurse under the supervision of a Registered Nurse for subcutaneous infusion.

## 5. Resources Required

This Procedure requires:

- i) 22G Saf-T-Intima cannula.
- ii) Prescribed medication.
- iii) AD Syringe Driver, docking station and power cord.
- iv) Chlorhexidine and alcohol swab.
- v) 10mL, 20mL BD leur lock syringe.
- vi) Drug additive label.
- vii) Extension tubing (leur lock 75cm minimum volume).
- viii) Tegaderm occlusive dressing.
- ix) Tape for securing tubing.
- x) AD Factsheet



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## 6. Process

### 1.00 Introduction

- 1.01 The AD syringe driver is a power driven device for pushing the plunger of a syringe forward at an accurately controlled rate, thereby administering medicine continuously at a constant rate.
- 1.02 Syringe drivers are most commonly used for subcutaneous medications in the palliative care setting, but can be used for other subcutaneous therapy.
- 1.03 The AD syringe driver is a battery powered ambulatory syringe driver, so it can be carried around by patients and used in the community setting.
- 1.04 The AD syringe driver is intended for administrations lasting between 30 minutes and 24 hours.

### AD SYRINGE DRIVER



### 2.00 Indications For Use

- 2.01 The syringe driver is most commonly used for pain relief but can be used for other medications such as Cyclizine, Haloperidol, Metoclopramide, Hyoscine, Dexamethasone and Midazolam.
- 2.02 It is used when drugs given orally are not being absorbed, for example if a patient has:
  - nausea and vomiting
  - difficulty swallowing
  - inadequate pain control
  - unreliable gastrointestinal absorption
  - or if the patient is unconscious
- 2.03 All AD syringe drivers are fitted with a lock box which prevents unauthorised access to the syringe and bolus facility during an infusion. The keypad lock can be activated if necessary.



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### 3.00 Administration of Medications via AD Syringe Driver

#### *Calculating the dose from oral medication eg. Morphine*

- 3.01 This must first be charted by doctor on the WCDHB Subcut Syringe Driver Infusion Prescription Chart.
- 3.02 Ensure the script is dated, clearly written, marked “subcutaneous” and signed. Alterations to scripts are unacceptable. If changes are to be made then a new script **must** be written.
- 3.03 Work out how many mgs of oral/pr morphine the patient is having in 24 hours. If their pain is well controlled, divide the oral/pr dose by  $\frac{1}{2}$  to get the subcutaneous dose.  
e.g. Total of 120 mg p.o. morphine in 24 hours, then administer 60mg s.c morphine in 24 hours

#### *Drawing up the medication*

- 3.04 Use 10mL or 20 mL BD leur lock syringe.
- 3.05 Draw up the correct dose you have calculated for the patient, then make up to 10 or 15mls using sterile water. Dose should be no more than 15 mls.
- 3.06 **DO NOT** prime the giving set.

#### *Setting Rate*

- 3.07 Always use as small a volume as possible per hour for subcutaneous infusions as subcutaneous absorption is less effective with large subcutaneous volumes. If the hourly rate is getting larger, as the patient requires more medication, get the medications recharted at a higher dose and then decrease the rate of the syringe driver.

- 3.08 To calculate mg. of morphine per hour: 
$$\frac{100\text{mg}}{24 \text{ hrs}} = 4.16\text{mg/hr}$$

Therefore to calculate mls per hour using a 10ml syringe

$$\frac{10\text{ml}}{24\text{hrs}} = 0.416\text{ml/hr}$$

### 4.00 Loading the Syringe

*(This may be done either before the AD is switched on or once powered up by following the prompts on screen).*

- 4.01 Removing the Cover
- Ensure the lock to the rear of the AD Syringe Driver is set to the unlock icon i.e. green coloured open padlock.
  - Slide the cover forward approximately 0.5cm aligning the arrows. Gently squeeze the sides of the cover, lift and remove.



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- 4.02 Release the Carriage
- Open the locking lever and rotate 180 degrees clockwise to disengage the Thumb plate clamp.
  - Slide the carriage to the rear of the AD Syringe Driver.
- 4.03 Raise Syringe Barrel Clamp
- Place finger in the hole located on the syringe barrel clamp, raise until an audible click is heard and it holds itself in place, then place the syringe under the clamp.
  - Make sure the syringe barrel flange is located in the correct slot (20-30ml or 5-10ml).
  - 20/30ml syringe plungers should be loaded to the side of the Thumb plate clamp.
- 4.04 Engage the Clamp
- Lower the syringe barrel clamp.
  - Slide the Thumb plate clamp gently forward until it engages the syringe plunger.
  - Rotate the locking lever 180 degrees anticlockwise to close.
- 4.05 Replace and Lock the Cover
- Note: An infusion will not run without the cover in-situ.*
- Ensure the lock on the back of the unit is set to the red closed padlock symbol
  - Turn the key anticlockwise until an audible 'CLICK' is heard.

### **5.00 Setting up the Syringe Driver**

- 5.01 Ensure syringe and cover are fitted correctly.
- 5.02 Quick Start Guide - *To **power down** during Quick Start, press any unassigned button and select POWER OFF.*
- Press and hold the POWER ON. Note: If the AD Syringe Driver has previously been powered down during an infusion, and providing the syringe has not been disturbed, the option to RESUME INFUSION will be displayed.
  - Select "yes" to RESET TOTAL VOLUME INFUSED (if applicable).
  - Select "yes" to confirm the syringe has been recognised correctly. If incorrect, select "no" and scroll through the other available syringe brands.
  - Press "no" to proceed to the next stage.
  - Select "yes" for 24 HOUR INFUSION (proceed to step 7).
  - Select "no" to set TIMED mode. Install prescribed time by using left and right keys to select the units and the up/down keys to change the TIMED value. Press ENTER when complete.
  - Calculate rate and select "yes" to confirm rate.
  - Does the extension set still need to be primed? Select "yes" to prime, or "no" to proceed.
  - Press "yes" to confirm checked setup and commence the infusion.



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- 5.03 To stop/hold, rate change and power down:
- 1) To **stop/hold** infusion, press the MENU button and select the START/HOLD option. Press ENTER.
  - 2) If **changing the infusion time** select the SET RATE option. Use the up/down keys to change the prescribed time. Press ENTER when complete. Confirm new rate/time to continue infusion.
  - 3) To **power down** select POWER OFF from the MAIN MENU.

### **6.00 Warnings/Alerts & Alarms**

6.01 Refer to AD Ambulatory Syringe Driver Directions for use on WCDHB Intranet.

### **7.00 Cautions**

- 7.01 Avoid using mobile telephones close, ie. Nearer than one metre to the Syringe Driver. This may interfere with the operation of the syringe driver.
- 7.02 DON'T use near MRI scanner.
- 7.03 DON'T use in the presence of anaesthetic gases or in an oxygen enriched atmosphere.
- 7.04 Syringe Drivers require annual maintenance—always check the last maintenance date before use.

## **7. Precautions And Considerations**

Action	Rationale
Always draw up Cyclizine <b>LAST</b> and only use water for mixing.	Cyclizine will crystallise in Normal Saline.
Always check syringe and tubing carefully as Cyclizine has a tendency to crystallize even when mixed with water. Use a 20mL syringe where possible to reduce problems.	
<b>Diazepam</b> is not suitable for subcutaneous administration and thus not suitable for syringe driver use.	It is immiscible with water-soluble drugs and it causes irritation when injected subcutaneously.
<b>Chlorpromazine and prochlorperazine (Stemetil)</b> are also not suitable for subcutaneous infusion.	They cause skin irritation and the latter breaks down on exposure to light.

## **8. References**

- Cardinal Health Inc, 2008 AD Syringe Driver Directions for Use (issue 10)
- Sims Graseby Limited, 1998
- Sims Graseby Instruction Manual
- Sims Graseby Limited, London
- Cancer Relief Advisory Group, 1995 Helpful Essential links to Palliative Care Centre for Medical Education, University of Dundee

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- Douglas Pharmaceuticals. 1997 Guide to Palliative Care

## 9. Related Documents

WCDHB Medication Policy  
 WCDHB IV Fluid and Medication Manual  
 WCDHB Administration of Medication Procedure  
 WCDHB Refusal of Medications by Patients Procedures  
 WCDHB Storing and Labelling Medications Procedure  
 WCDHB Medication Errors Procedure

<b>Revision History</b>	<b>Version:</b>	1
	<b>Developed By:</b>	Clinical Nurse Educator
	<b>Authorised By:</b>	Director of Nursing
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