

Please keep this booklet inside the syringe driver box (and ensure it is returned with the syringe driver).

# Syringe Driver Handbook

A Guide for patients and Families



Many thanks to Hibiscus Hospice for allowing us to use their publication as a guide.

**Mercy Hospice Auckland**  
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MHA PUB031 May 16

*He tangata, he tangata, he tangata.*

It is  
**people**

# Consent For Managing Syringe Driver At Home

Date: \_\_\_\_\_  
Name of patient: \_\_\_\_\_  
NHI \_\_\_\_\_  
Address \_\_\_\_\_  
Date Issued \_\_\_\_\_

### Name(s) and Signature(s) of nominated family members:

Name \_\_\_\_\_ Signature \_\_\_\_\_  
next of kin/guardian/legal representative *(circle one)*

Name \_\_\_\_\_ Signature \_\_\_\_\_  
next of kin/guardian/legal representative *(circle one)*

- I have had adequate education on how to operate the Syringe Driver.
- I have had my questions answered.
- I understand I can contact Mercy Hospice Auckland at any time if I have any concerns.

Name of Nurse: \_\_\_\_\_  
Signature of Nurse: \_\_\_\_\_

Date: \_\_\_\_\_

Name \_\_\_\_\_ Signature \_\_\_\_\_  
next of kin/guardian/legal representative *(circle one)*

# Notes page

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The contents of this booklet is designed to help caregivers understand how to use the syringe driver and how to care for it at home.

## What is a syringe driver?

A syringe driver is used to give prescribed medication when a patient:

- Is unable to take medication by mouth.
- Needs a constant level of medication for the best possible symptom control.
- Is too weak or sleepy to take medications at the prescribed time.
- Needs to have relief from nausea and/or vomiting.
- Wishes for greater independence.

The NIKI T34 syringe driver consists of a medication filled syringe, attached to a battery-driven 'driver' or 'pump', which ensures the medication is delivered over a given period of time, usually 24 hours.

Having a syringe driver might not be permanent and it may be discontinued once symptoms can be managed in other ways.

## Your rights and responsibilities

- You have indicated you feel comfortable with changing the pre-filled syringes in this syringe driver and your hospice nurse appreciates your support in doing so. Upon commencing the syringe driver he/she will explain everything you need to know.
- Please also read carefully this information booklet and refer to it when operating the unit.
- You have the right to change your mind at any time and choose NOT to continue changing the syringes.
- You also have the right to ask for help when needed, DAY or NIGHT. The general rule is 'if in doubt, check it out'. A hospice nurse is available 24/7 by calling 09 361 5966 to answer your questions or advise you.

## Notes page

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# What do I have to do?

**Change the syringe** when indicated. If for any reason the medication in the syringe runs out, do not panic - the effect of the medication will continue to work for at least one hour.

**Collect the pre-filled syringes from your pharmacy.** Your doctor will prescribe the medication required and discuss any changes with your hospice nurse.

**Always keep a spare pre-filled syringe on hand.** This will have been requested with the prescription. However you must make sure you have enough to last over a weekend or holiday period.

**Check three times a day** to make sure the syringe driver is still working.

**Check the insertion site(s)** whenever you change the syringe or give extra medication. Make sure there is no swelling, redness or soreness. If there is, phone the hospice before proceeding.

**Keep a record of each time you change the syringe** or administer PRN medication. Pages 16 and 17 are provided for this purpose.

**Make sure you understand** exactly what the hospice nurse tells you about operating the syringe driver. Please let them know if there is anything at all that you don't understand and ask as many questions as you need to.

**Call the hospice nurse if you have any concerns** about the syringe driver or how it is working.

**Please note:**

**The syringe driver must NOT be worn during showering or bathing.**

## What do I need to know?

Here is a quick guide to the key components and their operation:

<b>1</b> ON/OFF key	Used to turn the syringe driver on or to turn it off completely. It has to be held down for a few seconds to operate.
<b>2</b> START/YES key	Used to start the infusion or to turn off the noise when the syringe driver alarms.
<b>3</b> STOP/NO key	Used to stop the syringe driver from operating.
<b>4</b> FF/BACK keys	Used to move the actuator when loading the syringe.
<b>5</b> LED indicator	This indicator light flashes green once every 30 seconds when the syringe driver is infusing or is solid red if it is not infusing.
<b>6</b> Syringe barrel clamp	This clamp sits over the pre-filled syringe to hold it in place. It has to be undone when the syringe is being changed and then re-secured once the new syringe is in place. Under the clamp is an import sensor, which helps the syringe driver to operate correctly.
<b>7</b> Actuator	This holds and moves the syringe plunger to deliver the medication.
<b>8</b> Syringe nozzle	This is the connection that ensures the infusion line fits securely onto the syringe.
<b>9</b> Syringe plunger	This is moved by the actuator to push the medication through the syringe barrel, into the infusion line and to the insertion site.
Infusion line	This carries medication from the syringe to the insertion site. Some people will have two lines inserted, so if one line fails you can transfer the syringe driver to the second line.
Short line	This is a very fine tube inserted by the nurse and fastened in place. The other end is connected to the infusion line.
Insertion site	This is the entry point where the short line goes into the patient.

## Notes page

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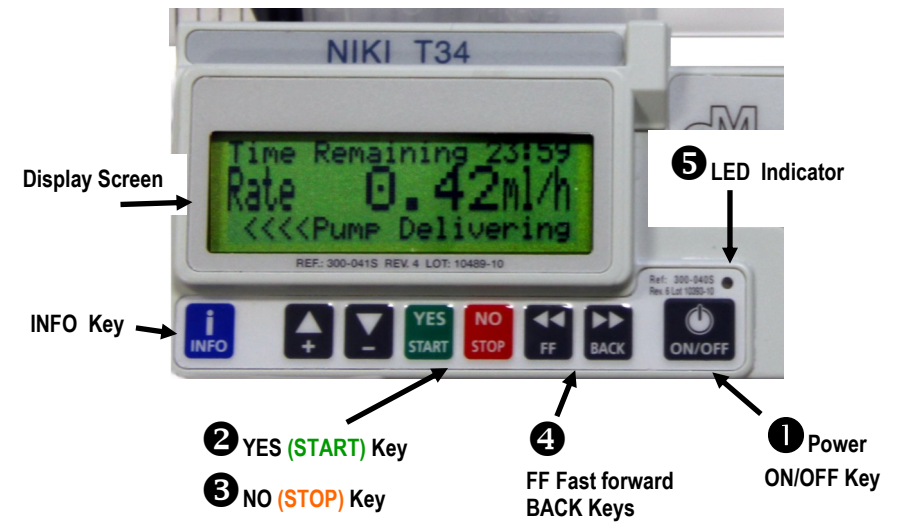
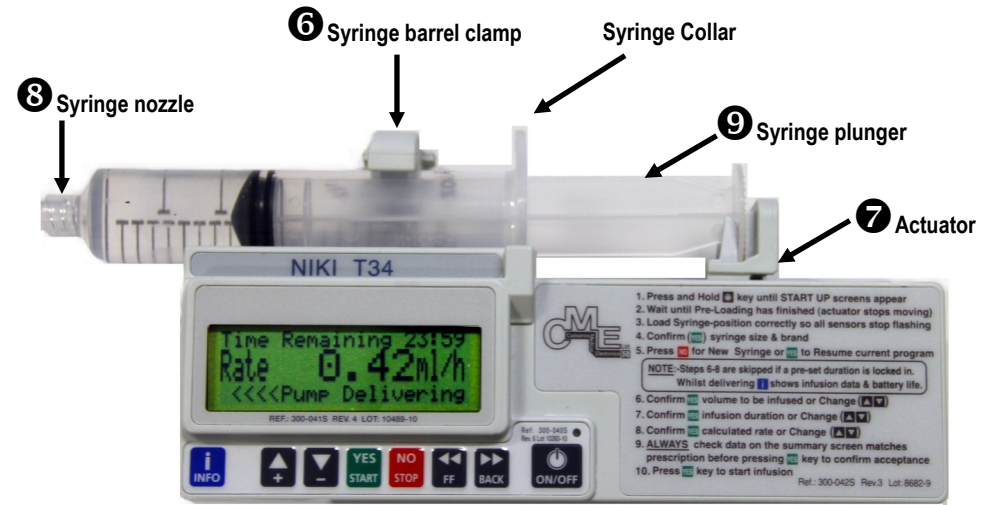
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### Please note:

It is normal for a green light to flash on the right hand side of the machine when the syringe driver is in 'running' mode. The light is red when it is in 'stop' mode, or if the pump is alarming.

# Alerts

Date of training: \_\_\_\_\_

Name of Nurse giving training: \_\_\_\_\_

Name of Family Member being trained: \_\_\_\_\_

**The syringe driver is designed to let you know when**

**Alerts**

An alarm will sound intermittently.

The infusion will continue.

A message appears on the display screen indicating the cause.

This message will alternate with the normal 'infusion running'.

**This table shows you what**

<b>Screen message</b>	<b>Problem</b>
Pump paused too long	Pump has been left in STOP mode (on hold) for 2 minutes.
Low battery	Battery is almost depleted.
Near end (nearly empty)	Infusion will end soon.
End battery	Battery is depleted.
End program	Syringe is empty.
Syringe displaced Check syringe	One or more of the syringe sensors is not detecting.
Occlusion/Syringe empty Check line & syringe Press YES to confirm	Patient access device blocked. Tubing occluded. (i.e. blocked).
System error Press and hold INFO for details If problem persists, send pump for service	System error.

<b>Tick when complete</b>	<b>Name and signature of family member (s) once their training is completed/ they are feeling confident</b>	<b>Signature of teaching nurse once training is completed</b>
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**It is a good idea to get into the habit of checking a and the display screen is displaying 'pump**



# Education Checklist

## Syringe Driver /PRN Medication Administration; In Home Training

NB: The names of all family members trained in Syringe Driver management should be recorded in the patient file

### Area of training

#### SYRINGE DRIVER AND PRN DRUG ADMINISTRATION:

- Patient is willing for nominated family member or caregiver to administer subcutaneous medication.
- Nominated person(s) is willing to administer the subcutaneous medications.
- Can identify where the 24hr hospice phone number is available.
- Patient understands reasons for medication/s administration and when they can be given.
- There is a clear PRN Prescription in the home stating:
  - Medication, Dose, Route, Specific Symptom it is used for, Minimum time interval between doses.
  - Number of times it can be administered in 24 hours before contacting a Doctor.
- Nominated person(s) demonstrated competence in flushing line using needleless system.
- Nominated person(s) understands importance of recording medications given.
- Nominated person(s) understand medications to be kept in the fridge until used or returned to Pharmacy.

#### SYRINGE DRIVER ONLY ADMINISTRATION:

- Demonstrates they can locate, read and understand information contained in the Syringe Driver Handbook.
- Is able to verbalise what to expect and responsibilities of syringe driver use and their role.
- Demonstrates:
  - A basic knowledge of the syringe driver use
  - The reasons for starting the syringe driver
  - The care of the syringe driver
  - The Medication
- Demonstrates the areas to be checked on the syringe driver:
  - Display screen
  - LED Indicator
  - Battery level
  - Infusion line
  - Insertion site
- Is able to verbalise the safe storage and disposal of medications and syringes and understands that any unused medication is to be returned to pharmacy.
- Is able to accurately complete the appropriate syringe driver documentation sheet
- Demonstrates how to change the pre-filled syringe in syringe driver including the correct syringe identification
- Demonstrates ability to troubleshoot solutions to the following problems:
  - Occlusion alarm
  - End of syringe alarm
  - Low battery level alarm

# and Alarms

there is a problem. There are 2 types of warning systems:

### Alarms

- An alarm will sound continuously.
- The infusion will stop.
- The LED indicator turns to red.
- A message appears on the display screen indicating the cause.

### action to take for each problem:

Action
Press YES to restart.
Change battery.
Prepare to change syringe or turn off driver.
Change battery (refer page 12).
Press STOP/NO. Change syringe (refer pages 8-9).
Reposition the syringe and connections. Check that it is loaded properly.
Turn syringe driver off and phone hospice for assistance.
Turn syringe driver off and phone hospice.

few times each day, that the LED indicator is flashing green delivering'. It is not necessary to check overnight.

## How to change the syringe driver

Steps	Action
1	Have the new pre-filled syringe available. Check the solution inside does not contain crystals and that it is clear, not cloudy.
2	Check the label. Make sure the medication is the same as stated in the 'Syringe Driver Authority Form' given to you by your hospice nurse. Check date has not expired.
3	Check the insertion site is not red, swollen or sore. If there is any doubt, phone the Hospice before proceeding.
4	If in place, unlock the clear plastic cover and take out the syringe driver.
5	Stop the existing infusion by pressing the STOP/NO key.
6	Turn the syringe driver off by pressing and holding the ON/OFF key for several seconds.
7	Lift up and twist (away toward the back) the barrel clamp that secures the syringe. Ensure it is in the 'down' position.
8	Remove the empty syringe with the tubing attached and place it on a flat surface.
9	Turn the syringe driver back on by pressing the ON/OFF key for several seconds. Wait for the syringe driver actuator to move to the right. The syringe driver display should now read 'load syringe'.
10	Check the battery level by pressing the INFO key twice. If the level is below 30%, fit a new battery. Refer to page 12 for instructions on how to do this.
11	Hold the new pre-filled syringe over the syringe driver and check the actuator is in the correct position to hold the syringe plunger. If it is not, ensure the barrel clamp is in the down position and move the actuator by pressing the FF and BACK arrow keys.



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## Record each time you change a syringe

### SUBCUTANEOUS MEDICATION ADMINISTRATION RECORD | SYRINGE DRIVER RECORDING ONLY

Patient name \_\_\_\_\_

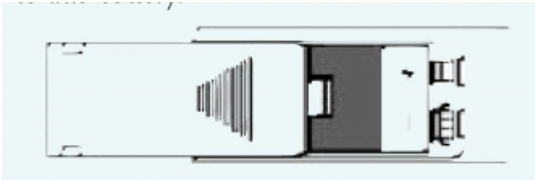
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### Steps Action

- 12 Slot the syringe into place. Make sure the labels are facing away from the barrel. The syringe collar should be straight up and down.
- 13 Secure the syringe with the barrel clamp.
- 14 Take the cap off the syringe - do not touch the end of the syringe or let it touch anything as this may cause contamination.
- 15 Take the tubing off the empty syringe. NB. It can be difficult to detach.
- 16 Transfer the tubing to the new syringe. NB. It is acceptable to have a small amount of air in the tubing. This will be absorbed without causing any harm.
- 17 Check the syringe size and brand against the information on the display screen. If correct, press YES key to confirm. If incorrect use the +/- arrow keys to change. Then press YES.
- 18 Check all information on the display screen is correct for the infusion. Check the amount in the syringe is close to the amount shown on the screen. If it is not, phone hospice.
- 19 Once you are sure everything is correct, press YES key to confirm.
- 20 Press YES key again to start the infusion.
- 21 Check the syringe driver is running:
  - The LED indicator should be flashing green every 30 seconds
  - The display screen should be showing <<<<< pump delivering.
- 22 Record the time of this infusion and sign on the 'Syringe Driver Medications Record Sheet'.
- 23 If the medication in the syringes are changed, ensure you discard any previous syringes or return to pharmacy.

## How to change the battery

The battery is located behind this slide panel on the back of the driver:



Don't worry if you have incorrectly inserted the battery as this will not damage the driver. Just remove it and re-insert it correctly.

The syringe driver requires a 9 Volt alkaline non-rechargeable battery.

This Duracell model is recommended.

Rechargeable batteries are NOT recommended.



### **To replace the battery:**

- 1 Stop the pump. Turn the syringe driver off.
- 2 Simply slide out the panel, remove the old battery and fit the new one. Slide the panel back on.
- 3 Press and hold ON key until the light in the display screen comes on.
- 4 Wait until the picture of the syringe on the display disappears.
- 5 Press YES to confirm syringe brand and size.
- 6 Press YES to resume infusion.
- 7 Press YES to confirm remaining volume, duration and rate of infusion.
- 8 Press YES to start the infusion.

You will need to keep at least 2 spare batteries at home.  
The recommended Duracell battery will last between 36 to 48 hours.

DATE	MEDICATION GIVEN	DOSAGE	SITE CHECK (TICK IF CHECKED)	SIGNATURE

## Record each time you administer PRN medication

### SUBCUTANEOUS MEDICATION ADMINISTRATION RECORD | PRN MEDICATION RECORDING ONLY

Patient name \_\_\_\_\_

Names and Signatures of designated family members:

Name \_\_\_\_\_ Signature \_\_\_\_\_

Name \_\_\_\_\_ Signature \_\_\_\_\_

DATE	MEDICATION GIVEN	DOSAGE	SITE CHECK (TICK IF CHECKED)	SIGNATURE

## Showering and Bathing

**The syringe driver cannot be immersed in water.**

**Before showering or bathing:**

- 1 Press STOP key.
- 2 Press & hold OFF key until a beep is heard – screen will go blank.
- 3 Disconnect line from the syringe, cap both ends with the little blue or white plugs supplied.
- 4 Do not remove the syringe from the syringe driver.

**After showering or bathing:**

- 1 Reconnect line to the syringe.
- 2 Press and hold ON button until the light on the display comes on.
- 3 Wait until the picture of the syringe on the display disappears.
- 4 Press YES to confirm syringe brand and size. If incorrect, use the + or - keys to change. Then press yes.
- 5 Press YES to resume infusion.
- 6 Press YES to confirm remaining volume, duration and rate of infusion
- 7 Press YES to start the infusion.

**The syringe driver must NOT be immersed in water or worn during showering or bathing.**

**If the driver does accidentally get wet, STOP the infusion and inform Mercy Hospice Auckland immediately.**

## If the syringe driver is dropped

It is likely to turn itself off. If this happens check the battery is in place and ensure the syringe is in place. Turn it back on and push the yes key to resume.

## Definition of PRN medication.

PRN is the abbreviation for the latin, Pro re nata – meaning: In the circumstances OR as the circumstances arise. PRN is commonly used in medicine to mean “as needed” or as the situation arises. It refers to a dose(s) of medication that is not scheduled, but instead left to the prerogative of a nurse, caregiver or patient.

PRN medication is usually given for pain, anxiety, nausea and vomiting, shortness of breath, seizures or a bleed.



Referred to in step 5.  
Push syringe into valve here.

## Administering PRN medication.

Your doctor and hospice nurse may have decided to place some additional syringes filled with (PRN) medication in your refrigerator.

These are for you to use if symptoms of pain, nausea or vomiting appear suddenly; become severe or happen during the night.

There will be medication in individually pre-filled syringes that can be given over a 24 hour period, AND pre-filled syringes of sterile saline to be used after each administration of a PRN drug along with a clear care plan for each medication.

The person(s) trained to give the PRN medication must enter the details of any injection they administer, in the PRN medication record sheet on page 16.

### **To administer PRN medication:**

- 1 Check the site where it is going into the skin. Please ensure that the skin is not red, hot, blanched (white), tender, hard, swollen or oozing. If any of these signs are present, please phone the Hospice for further advice.
- 2 Remove syringe from plastic bag and check label to ensure you are giving the right drug.
- 3 Take the cap off the syringe.
- 4 Do not touch the end of syringe or let it touch anything.
- 5 Connect syringe by pushing into valve (pictured left) and turn clockwise. Once in place, slowly push plunger to administer medication.
- 6 Once the syringe is empty, unscrew and remove it. Leave valve in place. Repeat the process with a syringe of the sterile saline to flush the line.
- 7 Discard any unused medication by washing down the sink or return to any pharmacy.