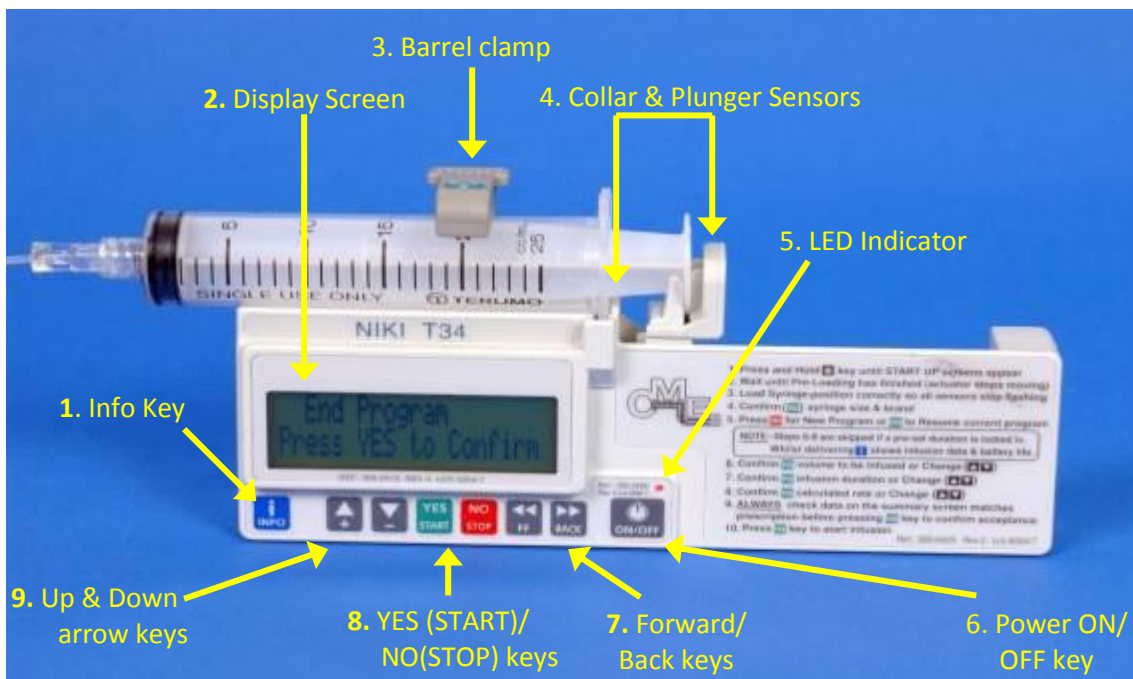


## NIKI T34 pump

### Knowing your way around the NIKI T34 pump



#### 1. Info key



- a. Shows technical data and Battery status
- b. Long press will Lock/Unlock Keypad
- c. Pressing Info button during infusion shows volume infused and volume to be infused

#### 2. Display Screen - Backlight can be enabled when any key pressed

#### 3. Barrel clamp

#### 4. Collar sensor & Plunger Sensors – detect volume in the syringe & syringe type

#### 5. LED Indicator

- a. Flashes green when the infusion is running
- b. Goes red when pump is stopped or alarms

#### 6. Power ON/OFF key - Switches the pump on and off

#### 7. Forward & backward keys – moves the actuator for syringe placement

#### 8. YES (START)/NO (STOP) keys

- YES (START) confirms selections/changes & starts infusion  
NO (STOP) takes user back a step & stops pump

#### 9. Up & Down arrow keys - scrolls between options

# Using the NIKI T34 pump

## Loading the Syringe

Once you have filled the syringe and primed the administration set you can turn the pump on & load the syringe as below:

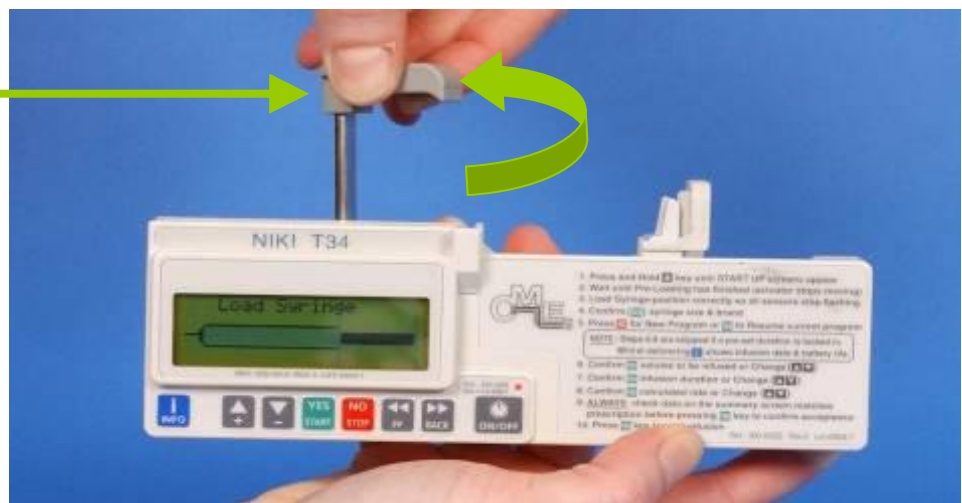
a. Ensure the barrel clamp is down



b. Switch the pump on by pressing the On/Off Key

c. SELF TEST appears on the display screen as system checks are performed. Allow pre-loading to complete

d. Lift & turn the barrel clamp

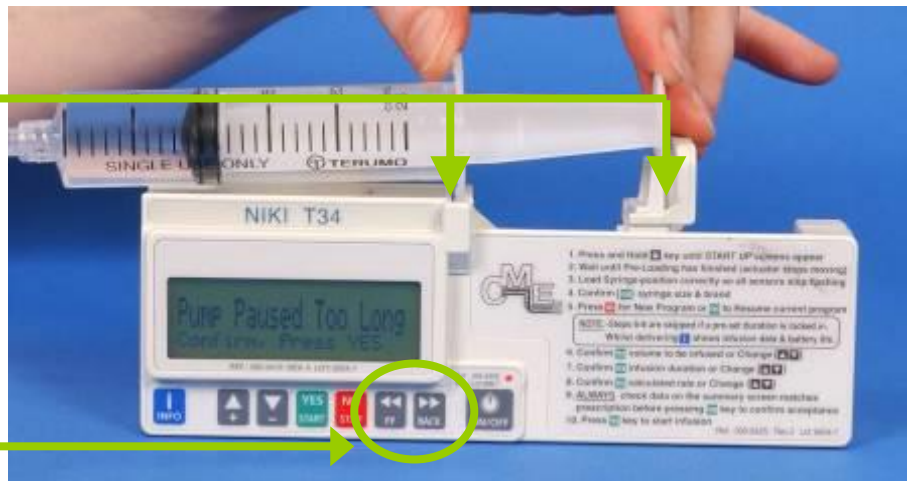


e. Place the barrel clamp down with the arm facing towards the back



f. Place syringe into collar and plunger sensors at the same time (with the writing on the syringe facing the front)

You may need to use the FF/back keys to position the plunger sensor so the syringe fits properly



g. Lift, turn and lower the barrel clamp arm onto the syringe



h. Ensure barrel clamp is securely in place & syringe is firmly placed into collar & plunger sensors

If syringe loaded correctly a message will come up on the display screen stating type of syringe inserted.



## How to set pump & start infusion

Once you have loaded the syringe into the Niki T34 pump, follow the prompts on the display screen and follow instructions below.

### STEP 1

#### Syringe Detection - the pump detects size & syringe brand

- Use the UP▲ & DOWN▼ arrows to scroll to the correct syringe brand & size
- Your syringe is a \_\_\_\_\_ (insert brand & syringe size)
- Once correct syringe brand & size displayed on the screen, confirm by pressing the YES key.

The infusion set up can now take 2 different paths depending on whether the pump has been set up with Program lock ON or Program Lock OFF. Proceed as following depending on the screen displayed:

#### PROGRAM LOCK OFF:

20ml BD Plastipak  
Volume \_\_\_\_\_ ml  
Change ↑↓ Press YES

PROCEED TO **STEP 2 (below)**

#### PROGRAM LOCK IS ON

Volume \_\_\_\_\_ ml  
Duration \_\_\_\_\_ hr  
Rate \_\_\_\_\_ ml/hr  
Confirm, press YES

PROCEED TO **STEP 5 (page 7)**

### STEP 2

#### Volume detection – the pump will detect the deliverable volume of fluid in the syringe

20ml BD Plastipak  
Volume \_\_\_\_\_ ml  
Change ↑↓ Press YES

- Press YES key to confirm if volume correct (volume detection by the pump may vary by up to +/- 0.5ml).

### STEP 3

#### Duration – the pump will return to the default duration

20ml BD Plastipak  
Duration \_\_\_\_\_  
Change ↑↓, Press YES

Pressing the UP▲ arrow key will give the infusion over a longer time frame

Pressing the DOWN▼ arrow key will give the infusion over a shorter time frame

- Use the UP▲ & DOWN▼ arrow keys to set the duration as ordered & then press the YES key to confirm.

**Remember**, the pump will not let you deliver the infusion under a certain time frame (this is due to the maximum rate set in the pump).

## STEP 4

**Rate** – the pump will calculate and display the rate for the infusion

20ml BD Plastipak

Rate \_\_\_\_\_ ml/h

Confirm, Press YES

- Check the rate against your infusion order, if correct press the YES key to confirm. If the rate is incorrect, press the NO key to scroll back & recheck the syringe detection, volume & duration settings are correct.

## STEP 5

### Infusion Summary

Volume \_\_\_\_\_ ml

Duration \_\_\_\_\_ hr

Rate \_\_\_\_\_ ml/hr

Confirm, Press YES

- Check the summary screen matches your infusion order** before pressing the YES key to confirm & YES again to start the infusion.

## Locking/unlocking the key pad

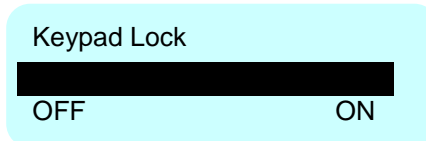
### a. Locking the keypad

While the infusion is running the keypad can be locked by pressing and holding the INFO key



until the lock mode chart shows LOCK ON and a beep is heard.

Screen Display when keypad locked:



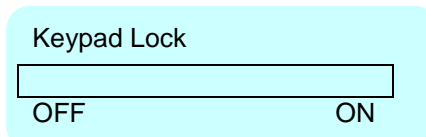
### b. Unlocking the keypad

To unlock the keypad press & hold the INFO key



until the lock mode chart shows LOCK OFF and a beep is heard.

Screen Display when keypad is unlocked:



**If you are running an infusion for your child, you can keep the keypad locked during the infusion to stop your child from tampering with the pump settings.**

## Pump checks during the infusion

### a. Information shown on the display screen during the infusion:

#### Example of display screen during an infusion

The Display screen will alternate between these 2 messages below during the infusion:

Time remaining 00:45  
 Rate 15ml/hr  
 <<<<<<< Pump Delivering


Time remaining 00:45  
 Rate 15ml/hr  
 20 ml BD Plastipak

### b. LED indicator:

- While the infusion is running the LED indicator will intermittently flash **green**
- If the pump is stopped during the infusion, the LED indicator will turn **red**



### c. Infusion Summary:

- Press INFO key  once
- This will display the volume to be infused (VTBI) and the volume infused (VI)

Infusion Summary

VTBI 10.08 VI 4.92

### d. Remaining battery life:


- Press INFO  key twice to show battery life

Battery Level


55%

## Stopping the Pump

### a. To stop the infusion:

- Press the red stop key . This will stop the infusion.
- If paused for 2 minutes or more the pump will alarm with a message "pump paused to long"

### b. To turn the pump off:

- Press the red stop key,  then the ON/OFF button.



## End of infusion

- The pump will alarm at 15 minutes and 6 minutes before the end of the infusion. This is an alert only.
- The pump will alarm again at the end of the infusion.
- Press YES to acknowledge & silence alarm, then press the on/off key to switch the pump off.

## Alarms

When the pump detects a problem, four things occur:

- a. The infusion stops
- b. An audible alarm is activated
- c. A message appears on the display screen (see example right)
- d. The LED indicator turns red



If an alarm occurs, press YES to acknowledge & silence the alarm or follow the screen messages

## Managing the Cause of an Alarm

Alarm/Alert	Possible Cause	Action
Restart pump	Pump system has detected a malfunction	Press INFO key, take a note of the error code /description reported & notify your Immunology Clinical Nurse Specialist
Occlusion	Infusion line occluded (kinked or trapped)	Check infusion line is not trapped, kinked or clamped at any point, then press YES to restart infusion.  If alarm repeats & there is no physical sign of obstruction pump may be faulty. Stop infusion, turn the pump off & contact your Immunology Clinical Nurse Specialist
Syringe Displaced	Syringe not fitted correctly/displaced	On screen messages identifies which sensor to check
End of infusion	Infusion completed	Turn off the pump
Pump paused too long	Left in stop mode for 2 minutes without a key press	If pump has been accidentally stopped, press YES to restart or finish programming
Syringe Empty	End of program	Turn off the pump
End Battery	No charge left in battery	Change battery now & restart infusion. Turn pump on, confirm syringe & resume infusion
Low battery	Charge in battery getting low	Alert only – infusion does not stop  Prepare to change battery
Near End	Infusion nearly complete	Alert only – infusion does not stop

## Trouble-shooting

IF THE PUMP DOES NOT PERFORM AS EXPECTED, GETS DROPPED OR WET, OR DAMAGED IN ANY OTHER WAY:

### *DO NOT USE THE PUMP*

Your Immunology Clinical Nurse Specialist must be notified & the pump must be returned to the hospital for servicing. If you have any queries regarding the pump, please contact your Immunology Clinical Nurse Specialist.

Problem	Possible Cause	Action
The pump will not start or has powered off	No battery present Battery installed incorrectly Battery level is very low Pump is faulty	<ul style="list-style-type: none"> <li>• Insert a battery</li> <li>• Re-align battery terminals</li> <li>• Insert a new battery</li> <li>• Service is required – contact your Immunology Nurse</li> </ul>
The infusion is going too quickly/ has ended early OR Is going too slowly OR Volume remaining in syringe at end of infusion	Incorrect rate set  Wrong syringe brand confirmed during set up  Pump faulty or incorrectly calibrated  Actuator cannot drive plunger forward enough to deliver entire contents, and so a small volume remains in the syringe at the end	<ul style="list-style-type: none"> <li>• Check displayed rate against your infusion order. If incorrect, stop pump, restart &amp; reset infusion.</li> <li>• To prevent this, always ensure barrel clamp arm is down before switching pump on. Once on, allow pre-loading to occur before inserting syringe. Ensure you confirm the correct syringe size &amp; brand before going ahead with infusion set up.</li> <li>• Service/calibration required – contact your Immunology Clinical Nurse Specialist to organise.</li> <li>• This can happen with some syringe brands – check with your Immunology Clinical Nurse Specialist.</li> </ul>
The pump has stopped before emptying the syringe	Alarm state has occurred	<ul style="list-style-type: none"> <li>• Check the alarm condition &amp; resolve</li> </ul>
The volume calculated by the pump is very different from what is in the syringe	Wrong syringe brand conformed at set-up OR Pump faulty or incorrectly calibrated	<ul style="list-style-type: none"> <li>• Remove syringe &amp; turn off pump. Ensure barrel clamp arm is down, turn pump back on &amp; allow pre-loading to occur.</li> <li>• Reload syringe &amp; make sure correct syringe size &amp; brand confirmed</li> <li>• If volume displayed on the screen is still very different from what is in the syringe, <b>DON'T USE THE PUMP</b>. Contact your Immunology Clinical Nurse Specialist to arrange servicing of the pump.</li> </ul>

## Pump accessories

### Using the lockbox

- a. Place pump in lock-box, with screen & keys facing cut-out areas



- b. Close the lid. The tubing will go through the small opening at the side of the lock box.



- c. Lock the lockbox using the key provided with the pump.



## Using the carry bag

- a. Slide the lockbox, with pump inside, into the carry bag



- b. There is an opening at the side of the carry bag allowing the tubing from the giving set to go through



- c. The flap at the front of the bag can be opened, so there is access to the key pad

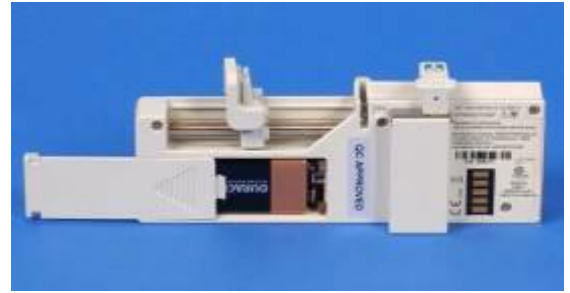


- d. Secure the bag to the body using the straps attached to the bag. These can go over the shoulders or around the waist.

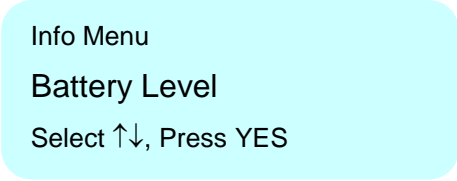


## Batteries for the Pump

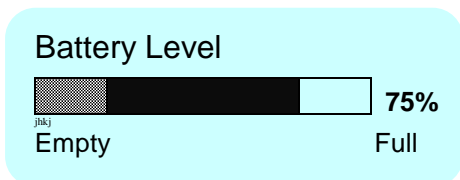
- Always fit a 9 Volt alkaline battery.  
The manufacturers of the pump recommend 'Duracell
- Zinc carbon' batteries are not recommended.
- **Do not use** non-alkaline batteries
- To fit the battery, slide the cover off the back of the pump and push the battery in. Slide the back on (see picture right)



- a. Switch pump on & press the INFO key once. The display screen will display the following:



- b. Select battery level from the Info menu by pressing the YES key.
- c. The display screen will then show battery life remaining (*example below*).



## Looking after the Pump

- **DO NOT** get wet. The pump is not waterproof and moisture will affect its performance. If it gets wet, you **must** notify the Immunology clinical nurse specialist & the pump **must** be returned to the patient appliance centre for servicing.
- **DO NOT** open up the syringe driver. If there are any technical problems, please contact the Immunology clinical nurse specialist.
- **DO NOT** store the pump for extended periods with battery fitted
- If the pump is dropped or struck against a hard object, it **MUST** be returned to the patient appliance centre for servicing.
- Cleaning the pump:
  - Always turn the syringe pump off & remove battery before cleaning.
  - Once a month (or as required) clean the lead screw thread (beneath the actuator) and guiding rods with a small dry brush to remove dust or other particles.
  - Use a lint-free cloth dampened with water & mild detergent to clean pump.
  - **DO NOT** clean syringe with chemicals such as xylene, acetone or similar solvents, as they can damage the pump.