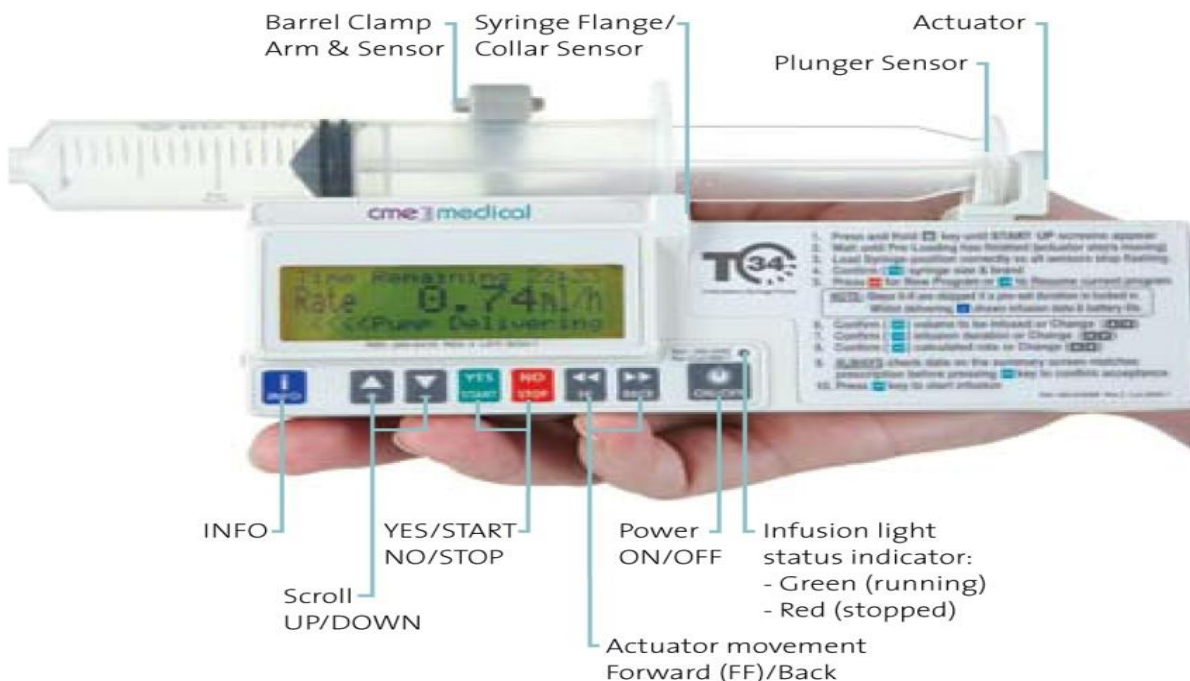


# Syringe Pump Operating Instructions

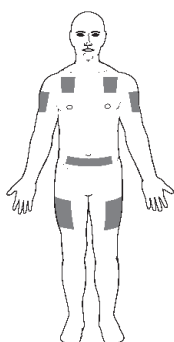
## Component parts of the CME Medical T34 syringe pump

### Feature recognition



## Acceptable SC cannula insertion sites

Acceptable SC cannula insertion sites are shown below:



The following sites should be avoided:

- oedematous areas including lymphoedematous limbs (poor drug absorption and increased risk of infection/exacerbation of oedema)
- bony prominences (poor absorption and discomfort)
- irradiated sites (may have poor perfusion and hence poor drug absorption)
- skin folds, sites near a joint and waistband area (movement may displace cannula: discomfort) and broken skin.

## Syringe Pump Operating Instructions

### Procedure for inserting SC Cannulae

1. Wash hands as per hand hygiene policy.
2. Explain procedure to patient and gain consent. Ask patient if they have a preference for site.
3. Ensure the skin is clean and dry. Wash with soap and water if visibly soiled.
4. Put on gloves.
5. Remove needle cover and inspect needle and cannula
6. Pinch skin between thumb and forefinger to ensure the SC tissue is identified.
7. When using a soft cannula infusion sets with integrated insertion device: Insert cannula at a 90-degree angle (follow instructions for the product you are using).
8. Ensure the built-in adhesive dressing is firmly adhered to the skin. If no built-in adhesive dressing, then secure insertion site with a transparent semi-permeable dressing.
9. If unsuccessful, do not re-insert the cannula. Insert a new cannula.
10. Write date of insertion of cannula on dressing.
11. Document date, time and site of cannula insertion on monitoring chart.
12. Remove gloves.
13. Decontaminate hands as per hand hygiene policy.

### Setting up Syringe Pump

- Two registered practitioners must be present when setting up the pump
- Always check the battery power before commencing the infusion. Press the **INFO** key until the battery level option appears on the screen and then press **YES** to confirm.
- If the battery power has less than 30% life remaining at the start of an infusion then a new battery must be installed. **See below**



- The battery should be removed from the syringe pump when not in use.

### Fitting the syringe to the syringe pump

- When a new syringe is being fitted to the pump, the pump must be **SWITCHED OFF** using the 'ON/OFF' button. Pressing the 'STOP' button does not switch off the pump.

## Syringe Pump Operating Instructions

### Insert syringe

- Lift the barrel clamp arm and seat the filled syringe collar/ear and plunger so the back of the collar/ear sits in the central slot (ensure correct placement). The syringe collar/ear should be vertical with the scale on the syringe barrel facing forward.
- Click the syringe plunger into the actuator - this may require some pressure.
- Lower the barrel clamp arm. The syringe graphic on the screen ceases to flash when the syringe is correctly seated at all 3 points.



- Ensure the barrel clamp arm is down on the syringe.
- Press and hold the **ON/OFF** key until the 'pump identification' screen appears. The identification screen briefly shows the pump model and software version.
- The LCD display will indicate `Pre-Loading` and the actuator will start to move. Wait until it stops moving and the syringe sensor detection screen (syringe graphic) appears.



- During `Pre-Loading` the actuator will return to the start position of the last infusion programmed. If the actuator is not in the correct position to accommodate the syringe, leave the barrel clamp arm down and use the **FF** or **BACK** keys on the keypad to move the actuator.

## Syringe Pump Operating Instructions

Forward movement of the actuator is limited for safety reasons, therefore, repeated depressions of the **FF** key may be required when moving the actuator forward. Backwards movement is not restricted.

See below



***To avoid an inadvertent administration of a bolus dose, the syringe must be attached to the pump before being connected to the patient.***

- The syringe size and brand option will then be displayed as shown below:



*Example figure only*

If the syringe size and brand match the screen message, press the **YES** key to confirm. If the syringe size and/or brand do not match, scroll with up or down keys until the correct selection appears, then press the **YES** key to confirm.

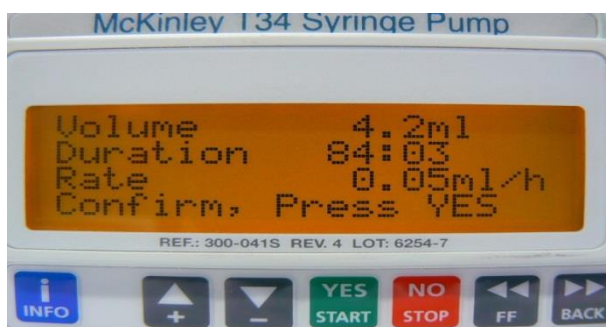


## Syringe Pump Operating Instructions

### Starting the infusion

If the patient is symptomatic, a SC bolus of medication should be given at the same time as commencing the syringe pump.

After confirming the syringe type, the next screen message that appears is displayed below:



*Example Figure only*

The pump will calculate and display the total volume, duration of infusion (24 hours) and rate of infusion (ml per hour). Please check that the pump has calculated the rate of infusion correctly.

***The calculated volume, duration and rate should be checked before pressing YES to confirm or ON/OFF to return to the syringe options.***

After pressing **YES** the next screen message that appears will be:



## Syringe Pump Operating Instructions

Check the line is connected to the pump and patient. Press **YES** to start infusion

When the syringe pump is running, the green LED indicator (above the **ON/OFF** switch) flashes and the screen displays:



If the infusion has not been started and a button has not been pressed for more than two minutes, an alarm will sound. The message 'Pump Paused Too Long' Confirm, Press YES will show on the LCD display. To stop the alarm, press **YES** and continue programming the infusion.

**It is essential that the keypad lock is activated.** This is mandatory whilst the device is in progress to prevent tampering with the pump. Press and hold the **INFO** key until a chart is displayed showing a 'progress' bar moving from left to right. Hold the key until the bar has moved completely across the screen and a beep is heard to confirm the lock has been activated.



## Syringe Pump Operating Instructions

When the keypad lock is activated the **INFO**, **YES/START** and **NO/STOP** buttons are still active.

To deactivate the keypad lock (pump must be infusing), repeat the above procedure. The 'progress' bar will now move from right (lock on) to left (lock off) and a beep will be heard.

After starting the infusion, check the syringe pump is set correctly and place it in the lock box. Universal keys are supplied to each ward. Replacement keys and lockboxes are the responsibility of individual teams.

Document commencement of the infusion on the pump chart.

***Warning! – To reduce the risk of syphonage, the syringe pump should be placed at the same level as, or lower than, the infusion site.***

### How to change the syringe

The pump **MUST** be switched **OFF** using the ON/OFF button to ensure the infusion rate is recalibrated once the new syringe fitted.

When an SC infusion line is already in situ and re-siting is not required:

- Stop the infusion by pressing the **STOP** button.
- Deactivate the keypad lock by pressing and holding the **INFO** button.
- Switch the pump **OFF** by pressing and holding the **ON/OFF** button.
- Use ANTT.
- Disconnect the SC infusion line from the previous syringe **before** removing the syringe from the pump. Normally the syringe will be empty but occasionally it may not be. This ensures that the patient does not receive an inadvertent bolus dose when the syringe is removed.
- Remove the previous syringe from the pump and attach the new one.
- Programme the infusion on the pump.
- Check the SC infusion line is full of fluid and connect it to the new syringe ensuring the luer-lock is fully screwed on to the thread of the syringe tip.
- If there is a delay in re-attaching the syringe to the SC infusion line, the line should be capped with a universal red bung.
- Document on monitoring chart any volume to be discarded from the previous syringe.

## Syringe Pump Operating Instructions

### How to temporarily stop an infusion

This is not normal practice and should only be used in exceptional circumstances e.g. when the patient is going for a bath, shower or MRI scan. (This should **not** be used for priming a new line)

It is recommended that CME Medical T34 syringe pumps should not be taken into bathrooms and showers when patients are bathing. The syringe pumps are sensitive to both steam and water ingress. Damage may occur which could result in pump failure.

The CME Medical T34 syringe pump cannot be used when a patient is having an MRI scan.

Follow this procedure to temporarily stop the infusion:

- Disengage the keypad lock by holding down the blue **INFO** key.
- Pause the infusion using the red **STOP** button.
- Switch the syringe pump off using the **ON/OFF** key.
- Disconnect the line from the cannula.
- Attach a needle free device to the end of the cannula and a sterile universal red bung to the end of the infusion line.
- Do not remove the syringe from the syringe pump.
- The syringe **must** be clearly labelled so that it can be easily identified.
- Store the syringe pump, syringe and line safely while not in use, e.g. in a patient's own lockable bedside medicine locker, in a CD cupboard in a ward/clinical area or out of the reach of children in the patient's own home.
- Document the time the syringe pump was stopped on the monitoring chart and the remaining medication volume in the syringe.

Follow this procedure to reconnect the patient to the pump;

- Use ANTT.
- Check the patient's details and prescription against the label on the syringe according to local medication policy.
- Remove the red bung from the end of the infusion line and reconnect it to the cannula.
- Switch the syringe pump on using the **ON/OFF** key.
- Confirm the syringe make and size.

The following screen message will display:



Select 'Press Yes to Resume' as this will continue the previous programme and allow the infusion to be completed.



## Syringe Pump Operating Instructions

The user should check that the infusion rate has remained the same as the previous entries noted on the Prescription and monitoring chart and record the details in the monitoring section.

- Press **YES** to confirm, then **YES** to restart the infusion.
- Record the time that the patient was reconnected to the infusion on the Prescription and monitoring chart. Assess patient to determine whether a SC bolus of medicines may be needed if symptoms have become uncontrolled.

If the **No** key is pressed, the syringe pump interprets this as a new program and calculates the delivery of the remaining syringe contents over a full 24 hour period again. The patient would not, therefore, receive the prescribed dose.

If the **No** key has been pressed in error, discard the remainder of the syringe contents and prepare and set up a new syringe.