NIKI T34™ Syringe Pump Problem Solving

Troubleshooting Alerts & Alarms

Screen Information	Result / Cause	Possible Actions
Program Nearly Complete	Alert: Program is about to end/syringe is almost empty.	Prepare to change syringe or discontinue pump use.
Low Battery	Alert: Battery is almost depleted.	Prepare to change battery.
Pump Paused Too Long	Alarm: The syringe pump has been stopped / paused for more than 2 minutes without any key presses.	Either press ▶ key to resume the infusion, press ■ to continue pause for another two minutes or turn the power off.
Syringe Empty, Remove Syringe	Alarm: Current infusion program has completed/syringe is empty.	Prepare to change the syringe or discontinue pump use.
End Battery	Alarm: Battery will fail imminently.	Change battery.
Syringe Displaced, Check Syringe	Alarm: One or more of the syringe detection sensors is not detecting.	Check the syringe and re-seat as necessary. Check screen messages for assistance.
Occlusion/Empty Syringe, Check Line	Alarm: Clamped set, occluded or kinked. Actuator has reached the minimum travel position.	Release the clamp, flush/replace the access device or clear the occlusion.
System Error (High Priority alarm) Press and hold ⓘ key for details. If problem persists send pump for service.	Alarm: An internal system error has occurred. (Two examples of system failure screen messages are shown here).	If error recurs: Take pump out of use. Press ⓘ key to obtain error message. Record error code and summary of fault and return to designated service centre.
Error. Startup MotMov Fail. If problem persists send pump for service.		

Technical problem/error and failure identification.

- The syringe pump alarms if an internal system fault has been detected and the unit will be inoperative.
- The user may be prompted to power off and restart, which may rectify the error.
- If the problem cannot be rectified: power off and remove from patient use.
- Refer to the *Technical Service Manual* for full details of all technical alarms.
- Follow local policy and/or contact your authorised Medical Engineering Department for advice.

The Event Log within the NIKI T34™ syringe pump will record the error/alarm event.

Subcutaneous cannula sites

- If the Occlusion Alarm continues to alarm after problem solving actions have occurred, remove and replace the subcutaneous cannula as it may be kinked under the skin.
- If frequent (i.e. every 24-48 hours) re-siting of the subcutaneous cannula is required due to site reactions, consider:
    - Changing to a less irritant medicine[1].
    - Adding to dexamethasone 1mg to the infusion as an anti-inflammatory agent[1].
    - Using two NIKI T34™ syringe pumps to separate medicines and increase infusion dilution.

[1] Therapeutic Guidelines Limited. *Palliative Care: Subcutaneous drug administration in palliative care (Appendix 10.1).* [Internet]. West Melbourne (Victoria): Therapeutic Guidelines Limited; July 2016 [eTG August 2020 edition]. Available from: Palliative Care Subcutaneous Drug Administration in Palliative Care (Appendix 10.1).

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NIKI T34™ Subcutaneous Medication Infusion Chart

Facility: ……

(Affix identification label here)

URN:

Family name: NOT A VALID PRESCRIPTION UNLESS IDENTIFIERS PRESENT

Given name(s):

Address:

Date of birth: Sex: ☐ M ☐ F ☐ I

First Prescriber **to Print Patient Name and Check Label Correct:**

……

This form is suitable for use in Hospitals and Residential Aged Care Facilities

Practice tips for NIKI T34™ Infusion Pump

Remember the NIKI T34™ syringe pump is pre-programed to run over 24hours for palliative care patients.

To standardise practice, it is recommended to:

- Use 30 mL Luer lock syringes. Luer lock syringes prevent risk of disconnection. A 30 mL syringe is the largest size syringe that can be contained within the NIKI T34™ syringe pump safety Lockbox.
- Use sodium chloride 0.9% as the diluent of choice, unless incompatible with medicine to be infused.
- Draw up medicine(s) plus sodium chloride 0.9% to a combined volume of 20 mL to dilute the infusion as much as practical.
- Complete the documentation record sheet on a regular basis, as required by policy and procedures of the local service provider.
- Contact the prescriber for advice if more than three doses of breakthrough medicine are required in a day for a particular symptom.
- Change the extension set every 72 hours or whenever medicine orders are changed.

Commencing an infusion

- Prime the extension set using the PURGE function on the NIKI T34™ syringe pump before connecting it to the patient.
- Purging can use up to 2 mLs of the infusion volume, hence the duration of the infusion can be up to two hours shorter for that day.
- Once the infusion is commenced, remember to press and hold the information button to lock the NIKI T34™ syringe pump keyboard.

Terminal care prescribing

- For information concerning terminal phase medicine doses and opioid conversions download the NPS MedicineWise PalliMEDS app.
- When using a NIKI T34™ syringe pump for terminal phase symptom management, it is best practice to also prescribe anticipatory medicines for pain, agitation, nausea and respiratory tract secretions.
- When commencing patients on a NIKI T34™ syringe pump any existing opioid therapy should be reassessed. In particular, consider whether opioid patches should be continued.
- Opioid breakthrough dosing is usually 10% of the total (24hr) background opioid dose.

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NIKI T34™ Subcutaneous Medication Infusion Chart

Facility..

(Affix identification label here)

URN:

Family name:

Given name(s):

Address:

Date of birth: Sex: ☐ M ☐ F ☐

NOT A VALID PRESCRIPTION UNLESS IDENTIFIERS PRESENT

Attach ADR Sticker
(see Medication Chart for details)

☐ NKDA
☐ Unknown

Sign: .... Print:................. Date: ....

First Prescriber **to Print Patient Name and Check Label Correct:**

....

Opioid patch to remain? ☐ Yes ☐ No ☐ Not applicable

Prescription *(should be reviewed daily and is valid for up to seven days)*

Date / Time	Medication (print generic name)		Dose to be delivered in 24 hours	Prescriber Signature	Print your Name	Pharmaceutical Review (sign & date)
		Dilute with 0.9% sodium chloride				

Nursing Calculation and Administration Record

Date							
Time							
Medication / Ampoule conc.	Volume	Volume	Volume	Volume	Volume	Volume	Volume
/	mL	mL	mL	mL	mL	mL	mL
/	mL	mL	mL	mL	mL	mL	mL
/	mL	mL	mL	mL	mL	mL	mL
/	mL	mL	mL	mL	mL	mL	mL
/	mL	mL	mL	mL	mL	mL	mL
/	mL	mL	mL	mL	mL	mL	mL
/	mL	mL	mL	mL	mL	mL	mL
sodium chloride 0.9%	mL	mL	mL	mL	mL	mL	mL
Total volume	mL	mL	mL	mL	mL	mL	mL
Prepared by							
Checked by							
Rate (specify in mL/hr)							
Total volume at commencement of infusion (after priming)	mL	mL	mL	mL	mL	mL	mL
Date site changed							
Volume discarded at end of infusion	mL	mL	mL	mL	mL	mL	mL
Discarded by / Witnessed by							

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Date of birth: Sex: ☐ M ☐ F ☐ I

NOT A VALID PRESCRIPTION UNLESS IDENTIFIERS PRESENT

Patient and Device Check Record *Monitoring of the infusion must be documented every four (4) hours*

Pain Score:

- Ask the patient to rate the pain by a numerical scale 0–10
  (0 = no pain / 10 = worst pain imaginable)
- Document the score

Patient Check:

- Check infusion site
- Record the results (e.g. B1 = Mild Swelling)

A Redness
B Swelling
C Tenderness / hardness
D Leakage
E Urticaria
F Haematoma

0 None
1 Mild
2 Moderate
3 Severe
4 Very severe

Device Check:

Check the device, the solution and the line using the check list below.

- Record Y (Yes) if all responses positive
- Record N (No) if any response is negative
- Document in the progress notes the details of the problem and the remedial action taken

Check List:

- Required volume in mLs has been delivered
- Connections are secure
- Solution is clear
- Lines are kink free
- Battery life adequate (refer to relevant product information)
- Volume remaining is sufficient to maintain continuous infusion as prescribed

Date	Time	Pain Score (0-10)	Patient Check	Device Check (Y / N)	Volume Left (mL)	Sign	Comments
	0400						
	0800						
	1200						
	1600						
	2000						
	2400						
	0400						
	0800						
	1200						
	1600						
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