Continuous Subcutaneous Infusions in the Palliative Care Setting Policy

1. Background

A subcutaneous infusion allows safe and effective continuous administration of medications when other routes are inappropriate or ineffective.

Subcutaneous infusions are primarily prescribed for patients with:
- an inability to swallow
- an inability to absorb oral medications
- uncontrolled pain
- uncontrolled nausea and/or vomiting
- obstructive gastrointestinal disease
- decreased level of consciousness.

Subcutaneous infusions may also be used for patients in the terminal phase of disease.

Subcutaneous ambulatory infusion pump delivers a constant, metered dosage of medication over a set time frame.

2. Policy Statement

2.1 Education - Nursing

For those nurses where it is deemed applicable by their managers that they have skills related to set up and management of subcutaneous infusions, they need to:
- be conversant with this policy
- complete the Ambulatory Infusion Pump, NIKI T34 (EQ03 EL1) education program via Capabiliti LMS
- be supervised in the set up and management of the pump until confident and competent in their practice

Local regional palliative care team members or staff development can assist in facilitating learning in this area.

2.2 Education – Patient / family / carer

- Use of the subcutaneous infusion (including reasons for use, practical care and ongoing management and review) must be discussed with the patient / family / carer prior to commencement
- The patient/family/carer is to be given the WA Country Health Service (WACHS) Information for Patients/Carers: Palliative Care Ambulatory Infusion Pump Brochure prior to commencement.
- The patient is to be shown how to change the batteries in the community.
• The patient is to be advised that the infusion pump must not get wet.

2.3 Management of Continuous Subcutaneous Infusion

2.3.1 Legislative Requirements

• All medication orders for subcutaneous infusions are to be prescribed and signed by the medical officer or nurse practitioner on the MR170H WACHS Continuous Subcutaneous Infusion Chart.

• Verbal orders for subcutaneous infusions must be in accordance with WACHS Medication Administration Policy (Item 8).

• Schedule 8 Medications are to be prescribed, dispensed, administered, recorded and disposed of in accordance with WACHS Medication Administration Policy (Items 18 and 20).

• All infusion volumes discarded are to be entered on the MR170H WACHS Continuous Subcutaneous Infusion Chart.

• Where only one registered nurse (RN) is available (e.g. Nursing Post) that RN is permitted to check and administer Schedule 8 Medications on their own in accordance with a medical officer’s order. (Department of Health Operational Directive OD 0141/08 Code of practice for the handling of Schedule 8 medicines (drugs of addiction) in hospitals and nursing posts)

• Recommended that the RN check calculations of medication doses/volumes with another RN or specialist palliative care service nurse (by telephone as necessary).

• All NIKI T34™ pumps are to be locked into the plastic, rigged lockbox when in use. Keys are to be kept with designated staff. The LOCK function on the pump is also to be activated.

2.3.2 Equipment

• MR170H WACHS Continuous Subcutaneous Infusion Chart with documented prescription by medical officer or nurse practitioner

• NIKI T34™ pump with rigid lockable box and key

• 9 volt alkaline battery (a spare battery should also be available)

• Saf-T-Intima™ catheter

• Luer-Lok® syringe 20mL

• Luer-Lok® extension tubing (length min. 75cm and max. 100cm)
• A “For Subcutaneous Use Only” medication label (as per the WA Health National Standard for User-Applied Labelling of Injectable Medicines, Fluids and Lines OD 0647/16)

![For Subcutaneous Use Only](image)

• Isopropyl alcohol 70% and chlorhexidine 2% skin cleansing swab
• Sterile needles and syringes (as required for drawing up medication)
• Transparent occlusive dressing 10x10cm (e.g. Tegaderm® or Opsite 3000®)
• Adhesive tape e.g. Fixomol®
• Prescribed medication and diluent
• Non-sterile gloves.

2.3.3 Medication
• A maximum of three medications to be combined in syringe for infusion
• All combinations of medications must be checked for compatibility (refer to the Australian Injectable Drugs Handbook).
• Medications are to be diluted in the syringe to 18mL with a suitable diluent.
• All patients require appropriate doses of breakthrough/bolus doses (‘prn’) medication to be prescribed.
• Most medications will not reach therapeutic efficacy for several hours. Consider administering a breakthrough/bolus dose at commencement of infusion pump to ensure timely symptom management.
• A completed “For Subcutaneous Use Only” medication label is to be attached to the syringe.

2.3.4 Practical considerations
• Infusions are to be prepared and connected in accordance with aseptic technique.
• In determining placement of the Saf-T-Intima™ catheter consider patient mobility, skin condition (avoiding areas affected by ascites, oedema, tumour or lesions), comfort and ease of access to insertion site.
• Insert a separate catheter for all breakthrough/bolus medications. Do not administer bolus medications into a catheter being used for an infusion of subcutaneous medications or fluids.
• When resiting the catheter, ensure adequate site rotation. If it is necessary to re-site in the same area, the new site should be at least 5cm from the old insertion site.

• Duration of infusion is usually 24 hours. This can only be altered in consultation with the Palliative Care Regional Nurse Coordinator. The pump will then be appropriately labelled to indicate an alteration in duration of infusion.

2.3.5 Observation record

• All patients are to have recorded, as a minimum, the observations as indicated on the MR170H WACHS Continuous Subcutaneous Infusion Chart.

• Observations are to be conducted every two (2) hours for inpatients (to be adjusted according to individual patient’s health status) and at every home visit for community patients.

• Assess and record Symptom Assessment Scale (SAS) scores for the symptom being treated (e.g. pain, dyspnoea, nausea) prior to administering breakthrough medication. Repeat SAS score 30 minutes post breakthrough administration to monitor effectiveness. Omit if patient is asleep. (See Appendix 7.1)

• Check solution for crystallisation, cloudiness or precipitation – if present, discard as per WACHS Medication Administration Policy.

2.3.6. Snapshot of setting up and running NIKI T34™ ambulatory infusion pump

DAY 1:

1. Prepare medication in 20 ml Luer lock syringe and attach extension line and catheter – do not attach infusion to the patient, do not manually purge the line.

2. Turn on NIKI T34™

3. Measure syringe against NIKI T34™ and press either FF or Back to align actuator to syringe plunger. Raise Clamp and place syringe in, close clamp, check 3 syringe sensors.

4. Use ▲▼ to select syringe brand. To confirm press YES.

5. Check and review data on screen, Volume, Duration, Rate

6. To confirm Press YES

7. Display will read “START INFUSION”. DO NOT commence infusion.

8. Press the FF key. The display will read “PURGE. DISCONNECT FROM PATIENT”

9. Confirm by pressing YES

10. Prime extension line and catheter by pressing and holding the key FF until screen reads “Purging complete”

11. Prime is now complete

12. Confirm brand of syringe is correct.
13. Press **YES** to Resume
14. Display will now read new volume (e.g. 17mL) and new Duration (e.g. 22.5hrs) Rate will remain constant (e.g. 0.75mL/hr)
15. To Confirm press **YES**
16. Connect infusion line to patient
17. When “Start Infusion?” is displayed, to commence press **YES**
18. Press INFO key and hold down to apply keypad lock.

**DAY 2 ONWARDS**

1. Prepare medication in relevant syringe
2. Press NO/STOP button, press INFO key to inactivate keypad lock.
3. Remove old syringe.
4. Measure syringe against NIKI T34™ and press either FF or Back to align actuator to syringe plunger
5. Raise Clamp and place in syringe, close clamp
6. Select correct syringe brand
7. Select NO for new syringe
8. Check data on screen, Volume, Duration, Rate, (e.g. 18mL, 24hrs, 0.75mL/hr)
9. Attach new syringe to infusion line
10. To confirm Press **YES**
11. When “Start Infusion?” is displayed, to commence Press **YES**
12. Press INFO key and hold down to apply keypad lock.

**Cessation of Infusion:**

1. Record final Volume to be Infused (VTBI) and Volume Infused (VI)
2. Press and hold INFO key to unlock keypad
3. Press NO/STOP button
4. Extend the arm clamp and remove syringe from pump
5. Press and hold down the ON/OFF button until screen turns off.

### 2.4 Adverse Reaction

#### 2.4.1 Subcutaneous site reaction

The catheter should be removed if the following are identified:

- Catheter dislodgment
- Leakage from site
- Blood in line
- Inflammation, significant oedema, hardness surrounding site
- Pain or discomfort.

Re-insert a new Saf-T-Intima™ at a new site as clinically indicated.
2.4.2 Medication adverse reaction

- The infusion is to be discontinued immediately and medical advice sought.
- The incident is to be recorded in the patient’s progress notes. A Clinical Incident Form is to be completed (as per WACHS Clinical Incident Management Procedure), in line with the Department of Health Clinical Incident Management Policy (2015) OD 0611/15.

2.5 Care and use of the ambulatory infusion pump

- Clean infusion pump with detergent wipes. They are not to be cleaned with alcohol impregnated wipes.
- Please refer to subcutaneous infusion manufacturers’ instruction manual for further cleaning and maintenance instructions.
- All infusion pumps are to be returned to designated storage points, with battery removed, when not in use.

3. Roles and Responsibilities

Refer to the user manuals provided by the manufacturer for operating instructions and use.

For support and trouble-shooting contact the Palliative Care Regional Nurse Coordinator.

All Staff are required to work within policies and guidelines to make sure that WACHS is a safe, equitable and positive place to be.

4. Compliance

Failure to comply with this policy may constitute a breach of the WA Health Code of Conduct (Code). The Code is part of the Employment Policy Framework issued pursuant to section 26 of the Health Services Act 2016 (HSA) and is binding on all WACHS staff which for this purpose includes trainees, students, volunteers, researchers, contractors for service (including all visiting health professionals and agency staff) and persons delivering training or education within WACHS.

WACHS staff are reminded that compliance with all policies is mandatory.

5. Evaluation

Performance measures may include:

- audit tools used in National Standards Assessment Program, Palliative Care Australia.
- audit of WACHS Patient Complaint/Compliment data.
6. References

- NIKI T34 Instruction Manual, Caesarea Medical Electronics
- *Medicines and Poisons Regulations 2016*
- WA Country Health Service *Medication Administration Policy* 2014
- WA Health *National Standard for User-Applied Labelling of Injectable Medicines, Fluids and Lines* OD 0647/16
- Palliative Care Outcomes Collaboration (PCOC) – *Assessment Tools*
- *WA Cancer and Palliative Care Network*, Department of Health Western Australia.

7. Appendices

7.1 Palliative Care Outcomes Collaboration (PCOC) *Symptom Assessment Scale Form*

7.2 Health Department of WA, Cancer and Palliative Care Network: *Opioid Conversion Chart*

7.3 Health Department of WA, Cancer and Palliative Care Network: Opioid Conversion Chart: *How to use the Opioid Conversion Guide*

7.4 *Capabiliti LMS* Ambulatory Infusion Pump, Niki T34 (EQ03 EL1).