Subcutaneous Infusions in the Palliative Care Setting via NIKI T34™ Procedure

1. Guiding Principles

The aim of this procedure is to detail best practice in the management of WA Country Health Service (WACHS) patients receiving subcutaneous medication via a NIKI T34™ pump.

A subcutaneous infusion allows safe and effective continuous administration of medications when other routes are inappropriate or ineffective. Subcutaneous ambulatory infusion pump delivers a constant, metered dosage of medication over a set time frame.

Infusion pumps can be used to deliver drugs to treat a variety of symptoms in palliative care. Common symptoms include pain, nausea, vomiting, breathlessness, agitation, delirium and increasing respiratory or gastric secretions.

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
- used for patients in the terminal phase of disease.

For patients in the community, this procedure should be read in conjunction with the Medication Safety for Carers of Palliative Care Patients at Home Procedure.

For subcutaneous infusion via CADD®-Solis refer to the WACHS Subcutaneous Infusions in the Palliative Care Setting via CADD®-Solis Procedure.

All medical, nursing, midwifery and allied health staff are required to work within WACHS Working in Isolation – Minimum Safety and Security Standards for All Staff Policy.

2. Procedure

Clinicians are to meet the requirement of the *Medicines and Poisons Regulation 2016* and the WACHS Medication Prescribing and Administration Policy.

This procedure facilitates safe and effective symptom control, patient choice, carer involvement and supports preferred place of care and death.

It provides clinicians working in WACHS with a safe framework to use and help manage a patient's distressing symptoms and breakthrough symptoms via the subcutaneous route.

In the context of health care, consent to treatment is a person's agreement for a health professional to proceed with a specific proposed treatment; patients are entitled to decide whether they will receive medical treatment.

When there is a person responsible for providing consent on behalf of a patient, he or she must be given the same information as would have been given to the patient if they had the capacity to make the treatment decision (refer to OD 0657/16 WA Health Consent to Treatment Policy).

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 procedure
- complete the MyLearning education program via Learning Management Systems: Ambulatory Infusion Pump: NIKI T34 Declaration (EQ03 EL1) 2022
- be supervised in the set up and management of the pump until confident and competent in their practice
- Clinicians are to meet the requirement of the *Medicines and Poisons Regulation 2016* and the WACHS Medication Prescribing and Administration Policy
- Consent to treatment is a person's agreement for a health professional to proceed with a specific proposed treatment. Patients are entitled to decide whether they will receive medical treatment. When there is a person responsible for providing consent on behalf of a patient, he or she must be given the same information as would have been given to the patient if they had the capacity to make the treatment decision. WA Health Consent to Treatment Policy-2016
- Local regional palliative care team members or staff development can assist in facilitating learning in this area.

2.2. Education – Patient

Patient/family/carer Education

- 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.
- Patients/carers/family need to receive education and written instructions. They are to be given the WACHS Palliative Care Subcutaneous Infusion Devices – Information for patients and carers brochure.
- Instructions on regular subcutaneous insertion site observations for signs swelling, redness or leakage and who to report to if issues identified.
- Procedures around dislodgement of the subcutaneous catheter.
- Advice on when and how to contact the local community palliative care nurse and/ or after-hours emergency contact.
- 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. Medication Management

The Medical Officer (MO) and/or Nurse Practitioner (NP) is responsible for prescribing the medicines used, volume and diluent.

Any change to the prescription or management of the infusion/PCSB requires a new prescription to be written.

Standard medications may be used differently in the palliative care setting, based on well-established practices for which there are varying degrees of evidence.

A wide variety of drugs can be used together in different combinations with no clinical evidence of loss of efficacy.

- **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
- Infusions are to be prepared and connected using aseptic technique (refer to WACHS Aseptic Technique Policy)
- Labelling of extension tubing and cassettes (refer to the Australian Commission on Safety and Quality in Health Care (ACSQHC) National Standard for User-applied Labelling of Injectable Medicines, Fluids and Lines)
- The Palliative care service may alter this standard dosing regimen as required after patient assessment and monitoring.

2.3.1 Legislative Requirements

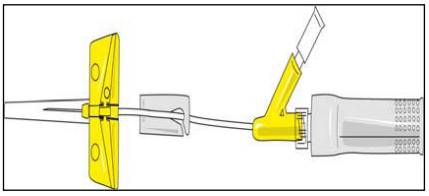
- All medication orders for subcutaneous infusions are to be prescribed and signed by the medical officer or nurse practitioner on the MR170H WACHS Subcutaneous Infusion Chart
- Verbal orders for subcutaneous infusions must be in accordance with section 3.5.1 of the WACHS Medication Prescribing and Administration Policy
- Schedule 8 medications are to be prescribed, dispensed, administered, recorded and disposed of in accordance with the WACHS Medication Handling and Accountability Policy and Medication Prescribing and Administration Policy (Department of Health MP 139/20 Medicines Handling Policy December 2020)
- 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 (refer to section 3.6 of the WACHS Medication Prescribing and Administration Policy)
- All infusion volumes discarded are to be entered on the MR170H WACHS 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 MP 139/20 Medicines Handling Policy December 2020)
- Recommended that the RN check calculations of medication doses/volumes with another RN or specialist palliative care service nurse (by telephone as necessary) – use the MR170H.1 WACHS Palliative Subcutaneous Medication Calculation Sheet
- 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.

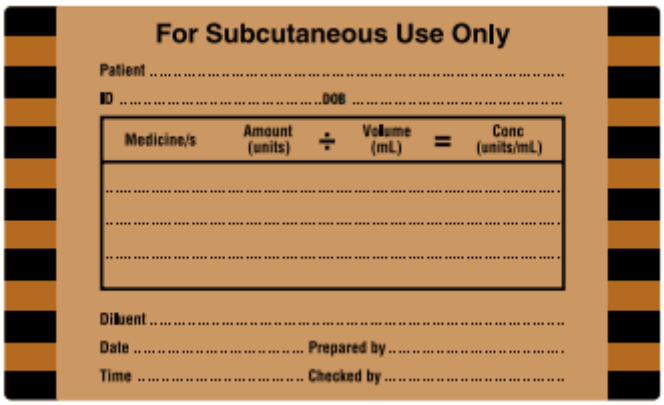
2.3.2 Equipment

- MR170H.1 WACHS Continuous Subcutaneous Infusion via T34™ Pump 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)
- "For Subcutaneous Use Only" medication label and line label



- 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 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
- Remove if having an MRI.

2.3.4 Patient monitoring and observation

- The MR170H.1 WACHS Continuous Subcutaneous Infusion via T34™ Pump Chart outlines the observations to be monitored and recorded
- Observations include:
    - Pump monitoring (time remaining, volume infused, volume to be infused)
    - Symptom scores (pain, nausea, restlessness)
    - Catheter insertion site assessment (catheter dislodgement; leakage from site; blood in line; inflammation, significant oedema, hardness surrounding the site; pain or discomfort)
      Note: reinsert a new Saf-T-Intima at a new site as clinically indicated
- 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
- **Adverse reactions**:
    - The infusion is to be discontinued immediately and medical advice sought
    - Refer to the WACHS Medication Prescribing and Administration Policy - Adverse Drug Reaction (section 3.7.6).
- **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. NIKI T34™ Procedural Information

Refer to the Subcutaneous Infusions in the Palliative Care Setting via NIKI T34™ Quick Guide.

> The Quick Guide is **not** left in patient's file as incorporates access codes to changing function of pump.

The quick guide covers the following items:

- Fitting the battery
- Battery test
- Day 1 procedure, including priming the line
- Day 2 onwards procedure
- Cessation of the infusion.

Care and Cleaning of the pump:

- Clean infusion pump with detergent wipes. They are **not** to be cleaned with alcohol Impregnated wipes
- Follow the manufacturer's instructions on cleaning
- All infusion pumps are to be returned to designated storage points, with battery removed, when not in use.

3. Definitions

Subcutaneous Infusions	Subcutaneous means under the skin. In this type of injection, a short needle is used to inject a drug into the tissue layer between the skin and the muscle. This type of injection is used when other methods of administration might be less effective or less well tolerated.
Device/Pump	Tool use to deliver continuous or intermittent drugs to a patient via a subcutaneous route.
NP	A nurse practitioner is a registered nurse educated and authorised to function autonomously and collaboratively in an advanced and extended clinical role.
MO	Medical Officer
Clinician	Is a health care professional who works with a patient in a hospital, skilled nursing facility, clinic setting or patient's home.
Breakthrough Symptoms	Symptoms that occur between regularly scheduled doses of medications
PRN	PRN medications are given on an "as needed" basis for specific signs & symptoms

4. Roles and Responsibilities

All medical, nursing, midwifery and allied health staff are required to work within their scope of practice, appropriate to their level of training and responsibility.

All Health professionals are to adhere and be compliant with related policies and guidelines to make sure that WACHS is a safe, equitable and positive place to be.

Further information may be found via Health Point or the Australian Health Practitioner Regulation Agency as appropriate.

5. Compliance

Failure to comply with this procedure may constitute a breach of the WA Health Code of Conduct (Code). The Code is part of the Integrity Policy Framework issued pursuant to section 26 of the *Health Services Act 2016* (WA) 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.

6. Records Management

All WACHS clinical records must be managed in accordance with Health Record Management Policy.

7. Evaluation

Evaluation of this procedure is to be carried out by the manager monitoring clinical incidents attributed to safe administration and prescribing of subcutaneous infusions in the palliative care setting.

All incidents to be investigated, managed, actioned and then tabled at the WACHS Medication Safety Committee for review.

This will be done in collaboration with the Regional Palliative Care Teams via:

- audit of WACHS Patient Complaint/Compliment data
- WACHS Community Palliative Care Clinical Documentation Audit

8. Standards

National Safety and Quality Health Service Standards
Partnering with Consumers Standard: 2.1, 2.2, 2.6
Medication Safety Standard: 4.1, 4.3, 4.14
Comprehensive Care Standard: 5.1, 5.3, 5.15, 5.16, 5.17, 5.18, 5.19, 5.20

National Palliative Care Standards 5th ed, 2018

Nursing and Midwifery Board of Australia Professional Standards

Australian Commission on Safety and Quality in Health Care. National Standard for User-applied Labelling of Injectable Medicines, Fluids and Lines

9. Legislation

Medicine and Poisons Act 2014
National Health Act 1953
Medicines and Poisons Regulations 2016

10. References

1. NIKI T34™ Procedure, How to safely set up, commence and provide necessary documentation for NIKI T34 ™ July 2020.
2. King Edward Memorial Hospital (KEMH), Niki t34 syringe pump: continuous subcutaneous infusion management 2017
3. Royal Perth Bentley Group, Nursing Practice Standard, Subcutaneous Therapy via a Subcutaneous Catheter, October 2016 [Accessed 7 July 2020]
4. *Medicines and Poisons Regulations 2016*
5. MP 139/20 Medicines Handling Policy December 2020)
6. WA Country Health Service Medication Prescribing and Administration Policy
7. Australian Commission on Safety and Quality in Health Care (ACSQHC) National Standard for User-applied Labelling of Injectable Medicines, Fluids and Lines
8. Palliative Care Outcomes Collaboration (PCOC)
9. Department of Health Western Australia, WA Cancer and Palliative Care Network
10. Australian Nursing and Midwifery Accreditation Council http://www.anmac.org.au/
11. Nursing and Midwifery Board of Australia https://www.nursingmidwiferyboard.gov.au
12. Therapeutic Guidelines: Palliative Care Version 4, 2017
13. WA Cancer and Palliative Care Network, Department of Health Western Australia.

11. Related Forms

MR170H.1 WACHS Continuous Subcutaneous Infusion via T34™ Pump Chart
MR170H.3 WACHS Subcutaneous Infusion Medication Calculation Sheet for T34™ Pump
MR722.2 WACHS Palliative Care Outcome Measures

12. Related Policy Documents

WACHS Aseptic Technique Policy
WACHS Subcutaneous Infusions in the Palliative Care Setting Policy via NIKI T34™
WACHS High Risk Medications Procedure
WACHS Infection Prevention and Control Policy
WACHS Medication Handling and Accountability Policy
WACHS Medication Prescribing and Administration Policy
WACHS Medication Safety for Carers of Palliative Care Patients at Home Procedure
WACHS Recognising the Importance of Carers Policy
WACHS Working in Isolation – Minimum Safety and Security Standards for All Staff Policy

13. Related WA Health System Policies

MP 0122/19 Clinical Incident Management Policy
MP 0139/20 Medicines Handling Policy
OD 0657/16 WA Health Consent to Treatment Policy

14. Policy Frameworks

Clinical Governance, Safety and Quality Policy Framework

This document can be made available in alternative formats on request for a person with a disability

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