Winnipeg Regional Health Authority / Office régional de la santé de Winnipeg — Caring for Health / À l'écoute de notre santé	Long Term Care Program	
	SUBCUTANEOUS INFUSION DEVICE: Insertion and Removal	Page 1 of 5
Operational Guideline	**Approval Signature:**	**Supercedes:** September 2017
	Date of Approval: December 14, 2020	
	Review Date: December 2023	

1.0 **PURPOSE**:

1.1 To provide a clinical resource for safely establishing, monitoring and removing a Subcutaneous (subcut) Infusion Device for administration of medication or fluids for indications including:

A. Circumstances that preclude or compromise oral administration

- Dysphagia – due to neuromuscular weakness or mechanical obstruction
- Decreased level of consciousness
- Intestinal obstruction
- Nausea and vomiting

B. Symptom control crisis requiring rapid and reliable administration and absorption

C. Poor or variable ability to take oral medications

- Dementia
- Agitated delirium

2.0 **DEFINITIONS:**

2.1 Prescriber: Refers to a health care professional who is permitted to prescribe medications or treatments as defined by Provincial and Federal legislation, his/her regulatory college or association, and practice setting.

2.2 Subcutaneous Infusion Device: A needleless, closed, indwelling subcutaneous catheter system inserted into the subcutaneous tissue, which is used for administration of medications or fluids.

3.0 **OPERATIONAL GUIDELINE:**

3.1 Nurses must follow their scope of practice as per their licensing body. Nurses are required to seek support and guidance as needed to fill their scope of practice.

3.2 Routine Practices with particular attention to the four moments of hand hygiene are a minimum requirement during both insertion and removal of Subcutaneous Infusion Devices.

4.0 PROCEDURE:

4.1 INSERTION

4.1.1 Perform hand hygiene.

4.1.2 Assemble equipment and supplies required:

- 24 gauge, 0.75 inch Subcutaneous Infusion Device
- 1 transparent dressing
- 1 luer-activated injection cap for use with luer-lock syringes
- 1 x 3 mL 0.9% sodium chloride injection (saline) pre-filled syringe
- 2 alcohol swabs
- 1 chlorhexidine 2% with 70% alcohol swab sticks
- Gloves (non-sterile)
- Tape or label
- Sharps disposal container

4.1.3 Verify the resident's identity using a minimum of 2 resident identifiers as per the WRHA Policy #110.000.370 Client Identification.

4.1.4 Explain procedure and expected outcomes to the resident or substitute decision-maker, as applicable, as per the WRHA Policy #110.000.005 Informed Consent.

4.1.5 Select appropriate insertion site with discussion with the resident, if possible (see Appendix A - Subcutaneous Insertion Sites).

4.1.5.1 Preferred injections sites include: upper arms, abdomen, anterior aspect of thighs, below the scapula

4.1.5.2 Site should be: easily accessible, free of lesions, away from large vessels, joints and bones, away from edematous tissue which may alter absorption, and away from sites of pressure due to positioning.

4.1.6 Perform hand hygiene.

4.1.7 Cleanse selected insertion site with the first side of the chlorhexidine 2% with alcohol swab stick in a right to left manner (see diagram 1) for 15 seconds. Flip chlorhexidine 2% with alcohol swab stick over and cleanse the insertion site for 15 seconds in an up and down manner (see diagram 2). Allow the cleansed area of skin to dry for 1 minute or until completely dry before proceeding.

Diagram 1

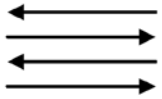
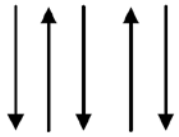


Diagram 2



4.1.8 Don non-sterile gloves.

4.1.9 Holding the Subcutaneous Infusion Device, rotate the safety barrel to loosen the needle inside the catheter.

4.1.10 Remove protective shield from the needle.

4.1.11 Using thumb and index finger pinch the skin and tissue around the insertion site creating a roll of about 2.5 cm in diameter around selected insertion site.

4.1.12 Grasp and hold the pebbled sides of the wings with needle bevel up and insert the entire length of the needle at a 45 degree angle.

- 4.1.12.1 It is not necessary to prime the line before insertion.
- 4.1.12.2 If blood appears in the tubing behind the wings, remove and discard the device, select a new injection site and start over with a new device.

4.1.13 Stabilize the wings, grasp the safety barrel and pull back in a straight continuous motion to remove the needle. The safety barrel will come off, exposing the injection cap.

4.1.14 Immediately discard the safety barrel containing the contaminated needle in the sharps disposal container.

4.1.15 Remove the existing injection cap with a gentle twisting motion and attach a luer-activated injection cap.

4.1.16 Cleanse injection cap, scrubbing vigorously, with 2 alcohol swabs for a total of 30 seconds and attach the pre-filled saline syringe.

4.1.17 Aspirate to ensure the Subcutaneous Infusion Device is not placed in a blood vessel. If blood appears in tubing, remove the device and discard. Repeat the insertion at a different site.

4.1.18 Flush the tubing with 0.5 mL of saline. Remove the saline syringe and discard.

4.1.19 Cover insertion site, hub, wings and first section of tubing with a transparent dressing. Ensure the hub is easily accessible.

4.1.20 Remove and discard gloves. Perform hand hygiene.

4.1.21 Label as a subcutaneous line with date and initial.

- 4.1.21.1 Subcut is an acceptable abbreviation. The following abbreviations shall not be used: SC, SQ or sub Q as per WRHA Policy #110.170.040 Medication Order Writing Standards

4.1.22 Document the following in the resident's health record: date and time of insertion, route, gauge of Subcutaneous Infusion Device used, site of insertion, and resident's response.

4.1.23 Assess the site every shift and document in the integrated progress notes or on the treatment administration record (TAR).

- 4.1.23.1 Observe for: signs and symptoms of infection, Subcutaneous Infusion Device misplacement and overuse of site.
- 4.1.23.2 This would include: leaking, redness, exudate, localized heat, localized inflammation, pain, tenderness, hardness, burning, swelling, scarring, itching, bruising, unresolved blanching, and necrosis.

4.1.24 Change the site every 7 days or sooner if clinically indicated (e.g. signs of infection, site overuse, hypodermoclysis).

4.2 **REMOVAL**

4.2.1 Perform hand hygiene.

4.2.2 Assemble equipment and supplies required:

- Gloves (non-sterile)
- 2 x 2 gauze
- Adhesive bandage (may be required)

4.2.3 Verify the resident's identity using a minimum of 2 resident identifiers as per the WRHA Policy #110.000.370 Client Identification

4.2.4 Explain procedure to the resident or substitute decision-maker, as applicable, as per the WRHA Policy #110.000.005 Informed Consent.

4.2.5 Perform hand hygiene.

4.2.6 Don non-sterile gloves.

4.2.7 Remove transparent dressing and subcutaneous line label.

4.2.8 Pull the Subcutaneous Injection Device out parallel to the skin and discard in the garbage.

4.2.9 Using the 2 x 2 gauze, apply gentle pressure over the site.

4.2.10 The insertion site may be left open to air or covered by an adhesive bandage, if required.

4.2.11 Remove and discard gloves. Perform hand hygiene.

4.2.12 Document the following in the resident's health record: date, time, reason for removal, and condition of the subcutaneous injection device after removal.

5.0 REFERENCES:

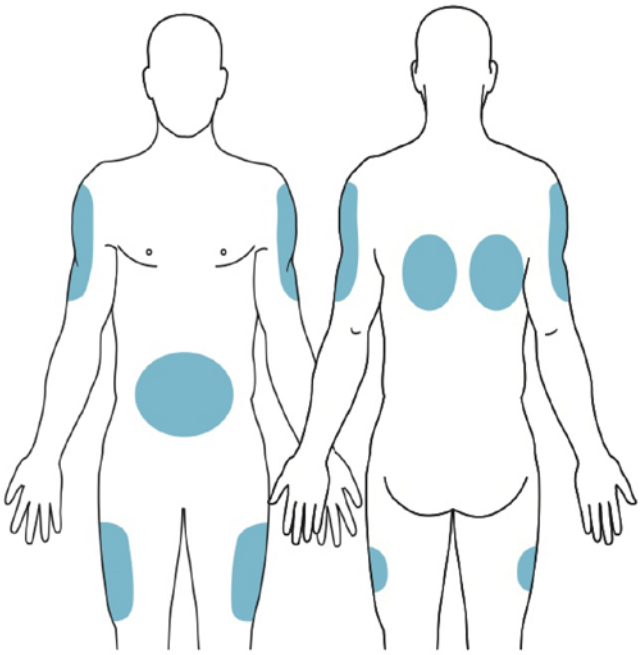
5.1 St. Boniface Hospital (2015); Indwelling Subcutaneous Catheter: Establishment and Medication Administration (Intermittent and Continuous).

5.2 WRHA Palliative Care Program (2015); Procedure for Subcutaneous Insertion, Removal, and Medication Administration.

Operational Guideline Contact: *Kristine Schellenberg, Clinical Nurse Specialist, WRHA LTC Program*
Luana Whitbread, Clinical Nurse Specialist, WRHA LTC Program
Allison Bell, PCH Pharmacy Manager, WRHA LTC Program

APPENDIX A – Subcutaneous Insertion Sites

Shaded areas are those which can be considered for the insertion of subcutaneous line for intermittent or continuous administration of fluids or medications



Outer Arm:

Avoid if possible for hypodermoclysis

Abdomen:

Avoid as a possible site for any injections if there are signs of abdominal distension

Upper Back:

Use when other sites unsuitable or the client is confused and restless

Thigh:

Best location as a site for hypodermoclysis

Subcutaneous Injections Sites

Adapted from: http://lifeinthefastlane.com/search/?q=subcutaneous+injections

The following areas should be avoided when inserting a subcutaneous line for either intermittent or continuous use:

- Areas with lymphedema or edema
- Areas that have too little subcutaneous tissue
- Areas with broken skin
- Skin sites that have been recently irradiated
- Skins sites with infection or inflammation present
- Areas with bony prominences
- Tumor sites
- Skin folds