SESLHD PROCEDURE COVER SHEET

NAME OF DOCUMENT	Subcutaneous Needle Insertion and Management
TYPE OF DOCUMENT	Procedure
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EXECUTIVE SPONSOR or EXECUTIVE CLINICAL SPONSOR	Clinical Stream Director, Cancer Services
AUTHOR	SESLHD Palliative Care Working Group
POSITION RESPONSIBLE FOR THE DOCUMENT	Clinical Stream Nurse Manager - Cancer & Palliative Care SESLHD, BreastScreen NSW SES&IS LHD and Cancer Systems Innovations Manager Cancer Institute NSW kim.rigg@health.nsw.gov.au
KEY TERMS	Palliative Care, Subcutaneous needle
SUMMARY	This protocol outlines the procedures required for the insertion and management of subcutaneous needles/ cannulas.

1. POLICY STATEMENT

Subcutaneous (sub cut) needles/ cannulas have multiple uses within the health care setting including intermittent and continuous subcutaneous medication delivery. This document covers the insertion and management of sub cut needles or cannulas.

2. BACKGROUND

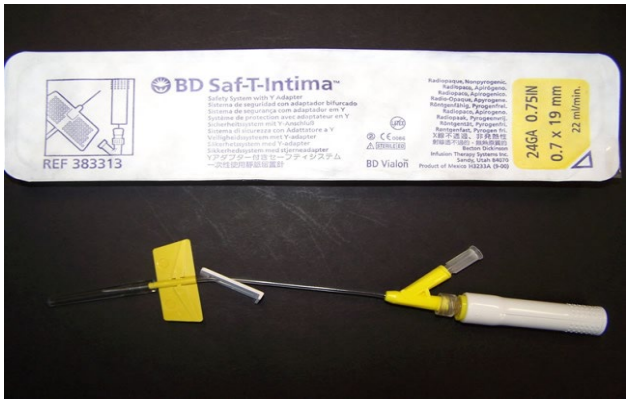
Administration of subcutaneous medications and fluids is as effective as other routes. There are a number of choices of sub cut devices available. Soft winged infusion sets are made of polyurethane or some other Teflon based cannula (i.e.: Saf-T intima™ Insuflon™).The only part of the device that is metal is the inner stylet or introducer. A soft catheter is left in place.

The use of a cannula is recommended to:

- increase patient comfort
- reduce site reactions
- promote decreased trauma of insertion
- reduce needle stick injury
- are durable.

For the purpose of this policy when an (sub cut) needle/ cannula is referred to the BD saf-T intima™ is the device of choice for the adult setting.

Note: BD saf-T intima's ™ are not approved for sub cut use by the Therapeutic Goods Administration. The use of BD saf-T intima™ is based on best practise evidence. To date there have been no adverse events relating to the use of BD saf-T intima™ for sub cut administration.



BD Saf-T-Intima ™ IV catheter Safety System

3. RESPONSIBILITIES

3.1 Employees will: be familiar with the policies and procedures outlined in this protocol and document all conversations and actions related to this procedure in the patient's electronic medical record eMR.

3.2 Line Managers will: Ensure staff are aware of and adhere to the policy as appropriate

4 PRE INSERTION CONSIDERATIONS

4.1 Gauge size of subcutaneous cannula

The recommended size for sub cut medication and fluid administration use is 24 gauge.

4.2 Site choice

- Site selection is dependent upon the patient's skin turgor and comfort.
- Consider the patient's mobility, skin condition, ease of access and mental state.
- Inadequate or poorly selected site selection can lead to poor medication absorption and ineffective therapeutic effect.
- Must be clearly documented, handed over and assessed each shift

4.3 Sites to avoid

- Any area that restricts body and limb movement (i.e.: skin folds, joints)
- Breast tissue
- Areas of obvious bruising, swelling, infection, redness, inflammation, bony prominences, tumour site, ascites, oedema, scarred areas, lymphoedema, oedema and/ or hardened, broken skin.
- Irradiated skin areas and areas that have minimal subcutaneous tissue
- Areas where there is little subcutaneous tissue (i.e.: thin patient outer arms/ subclavicular area).

4.4 Considerations

- For confused patients consider a position that is out of the patient's site and reach (i.e. scapula, upper back).
- If a patient is being turned at regular intervals avoid the anterior upper arm.
- When resiting a sub cut cannula ensuring adequate site rotation. When it is necessary to resite in the same area, the new site should be at least 5 cm apart/away from the old site.
- If the patient requires a continuous infusion with breakthrough doses, an additional subcutaneous cannula must be inserted for administration of PRN doses.

4.5 Pain relief/ needle phobia

A patient may require local anaesthesia prior to subcutaneous needle insertion (whether it is for psychological or physical pain relief). In this instance it is recommended that an Emela ® patch be applied 30 minutes prior to insertion. Emela ® patches must be charted in the patients electronic medication chart by the medical officer.

See appendix 1 for appropriate sites to insert sub cut cannula.

4.6 Pre-insertion priming

There is approximately 0.1 mL of 'dead space" within a BD saf-T intima™ cannula. This amount is often thought as being negligible hence there is not a need for pre insertion priming of the cannula.
However within the realm of best practise the sub cut cannula is to be primed using water for injection prior to insertion. Rationale includes:

- less air being injected into the patients subcutaneous tissue
- ascertain any fault in cannula function prior to insertion.

4.7 Site preparation

Due to the dwell time (7 days) of the BD saf-T intima™ it is imperative that the selected site be adequately cleaned prior to insertion using aseptic technique. The site must be cleaned using a solution that has residual activity (i.e.: 70%Chlorhexidine Gluconate or 70% ethyl or isopropyl alcohol). Apply solution using friction and allow area to air dry for 30 seconds.

If required clip the hair prior to insertion. Clipping is the preferred method as shaving can cause micro abrasion that can predispose the site to infection.

4.8 Dwell time of sub cut cannula

The BD saf-T intima™ can remain in stitu for up to 7 days if there is no signs of irritation, inflammation, pain or infection.

In certain circumstances a subcut cannula may require more frequent changes (i.e.: Methadone or Ketamine infusions). A solution to this issue is to avoid the subcut administration of Methadone and Ketamine. See Ketamine infusions for Adult patients with acute and chronic malignant pain SESLHDPR/371

4.9 Dressings

It is recommended that an occlusive dressing be used that is both waterproof and large enough to cover the exit site of the BD saf-T intima™. For example: Opsite 3000 ® or Tegaderm by 3M ®. Always check with the patient for any dressing allergies prior to application.

4.10 Needle assessment

Subcutaneous needles should be inspected once a shift. Traditionally the Visual Infusion Phlebitis (ViP) score is used in the assessment of peripheral cannulas. However the same principles can apply to the assessment of subcutaneous devices. The ViP score documented as per local guidelines.

Score	0	1	2
Condition of site	Healthy	Slight pain or slight erythema	Pain + erythema, swelling or leaking
Action	Continue regular observation	Close observation of site	Replace subcutaneous needle

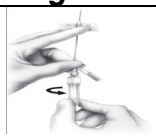
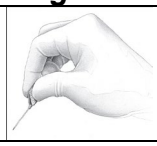
5. PROCEDURE: INSERTION OF SUBCUTANOUES NEEDLE

5.1 Equipment

Non sterile kidney dish
10 mL Leur lock syringe
24 g Saf-T intima™ winged infusion set
2 caps (i.e. Interlink ™ bung)
10 mL water for injection amp
Alcohol wipes and/ or Chlorhexidine wipes
Occlusive dressing (i.e. Opsite™ 3000)
Non sterile gloves

5.2 Procedure

1. Use aseptic technique
2. Explain the procedure and obtain verbal consent as per NSW Health PD2017_032 Clinical Procedure Safety
3. Choose site- see appendix 1 for recommended sites.
4. Use 70% alcohol hand rub or wash hands as per NSW Health PD2017_013 Infection Prevention and Control Policy.
5. Collect equipment. Transport to the bedside using kidney dish.
6. If required clip hair (clippers only).
7. Draw up 10 mL water for injection using 10 mL syringe.
8. Place interlink cap on side port. Prime Saf-T intima™ using the side port.
9. Use alcohol hand rub or wash hands as per NSW Health PD2017_013 Infection Prevention and Control Policy
10. Don non sterile gloves
11. Clean area using 2% Chlorhexidine Gluconate v/v 70% Isopropyl Alcohol swab until the swab comes away clean.
12. Hold Saf-T intima upright and rotate the safety barrel to loosen the seal between needle and cannula (Diagram A). Ensure that the bevel is not covering the catheter.
13. Grip wings of Saf-T intima™ (bubbled surface on the outside) between the thumb and index finger. This will prevent the stylet from moving backwards (Diagram B).
14. Remove clear plastic needle cover and lift a "fold" of skin between finger and thumb. This is to create of smooth surface in which to pierce the skin.
15. Insert the needle at a 30 º to 45º angle into the subcutaneous tissue.
    - *Note: for thin patients the angle of insertion may need to be less 30º*
16. Support the Saf-T intima™ to keep it in place. Gently retract the metal introducer.
17. Grip the "Y" connection and continue to remove the remainder of the introducer.
18. Dispose of introducer into the appropriate sharps container
19. Flatten the wings on the surface of the skin and place the port horizontal to the patient.
20. Cover the Saf-T intima™ and wings under the occlusive dressing. Ensure that the dressing is moulded around the tubing to create a seal.
21. Label the dressing with the date and time of insertion.

Diagram A	***Diagram B***
	

22. Complete documentation as per NSW Health PD2012_069 Health Care Records - Documentation and Management. Include time, date, and site of insertion in the patient's medical record and the appropriate clinical form (i.e. syringe driver observation form, pain management form).
23. Dispose of equipment as per NSW Health Guideline GL2018_013 Work Health and Safety - Blood and Body Substances Occupational Exposure Prevention
24. Use alcohol hand rub or wash hands as per NSW Health PD2017_013 Infection Prevention and Control Policy

6. CARE OF SUBCUTANEOUS CANNULA

- The insertion site must be checked during each administration of a medication/ fluid.
- The condition of the subcutaneous site must be documented at least once per shift using the appropriate clinical form (i.e. syringe driver observation form, pain management form).
- Thrombocytopenia bruising and bleeding.
- The sub cut cannula must be immediately removed if any signs of erythema, infection, inflammation, oedema, pain, leakage or dislodgment.

7. REMOVAL OF SUBCUTANEOUS CANNULA

1. Use aseptic technique
2. Use alcohol hand rub or wash hands as per NSW Health PD2017_013 Infection Prevention and Control Policy and don non sterile gloves.
3. Gently remove dressing from skin. The dressing is not required to be removed from the device only the patient's skin.
4. Remove Saf-T intima™ by gently withdrawing the cannula from the patients skin.
5. Dispose of Saf-T intima™
6. Apply firm pressure to site. If any bleeding/ leaking apply small sterile dressing.

8. DOCUMENTATION

SESLHD inpatient Syringe driver form (SES130.021)
SESLHD community Syringe driver management form (SES130023))
Patient medical record

9. AUDIT

As per clinical area

10. REFERENCES

Bartz L, Klien C, Seifert A, Herget I, Ostgathe C and Steil S (2014) Subcutaneous Administration of Drugs in Palliative Care: Results of a Systematic Observational Study. *Journal of and Symptom Management Vol 48 No 4 p 540-54*

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NSW Health PD2012_069 Health Care Records - Documentation and Management

NSW Health Guideline GL2018_013 Work Health and Safety - Blood and Body Substances Occupational Exposure Prevention

NSW Health PD2017_032 Clinical Procedure Safety

NSW Health PD2017_013 Infection Prevention and Control Policy

11. REVISION AND APPROVAL HISTORY

Date	Revision No.	Author and Approval
February 2011	0	Approved by combined clinical council
May 2015	1	Northern palliative Care Working group
July 2015	2	Endorsed by Executive Sponsor
July 2018	2	Review undertaken – no changes required to procedure, MOH links updated. Endorsed by Executive Sponsor
July 2018	2	Processed by Executive Services prior to publishing
June 2022	3	Minor review: Minor changes made in regard to eMR documentation; references and hyperlinks updated. Endorsed by Executive Sponsor
July 2022	3	Endorsed at SESLHD Quality Use of Medicine Committee with minor amendment. Published by SESLHD Policy.

Appendix 1: Recommended sites for subcutaneous needle insertion