

GUIDING PRINCIPLE FOR ADULTS FOR SUBCUTANEOUS THERAPY: INTERMITTENT AND CONTINUOUS

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DEFINITIONS

Subcutaneous Therapy – The establishment of temporary subcutaneous access for repeated/intermittent medication doses and/or continuous subcutaneous infusion of medication.

Hypodermoclysis (HDC) – Refers only to the infusion of fluids into the subcutaneous space for rehydration or for the prevention of dehydration. For all other uses, the term subcutaneous therapy should be used.

1. PURPOSE

1.1 To guide practice associated with insertion and maintenance of subcutaneous therapy and hypodermoclysis.

2. GUIDELINES

2.1 In palliative care, subcutaneous is the route of choice when oral route is not possible.

2.2 A Prescriber's order is required for medication/fluid therapy.

2.3 Regulated Health Care Professionals

2.2.1 Initiate and maintain intermittent subcutaneous access.

2.2.2 Administer intermittent subcutaneous medication via established access.

2.2.3 Initiate and maintain continuous subcutaneous infusions (medications/fluids).

2.4 Subcutaneous Site Change

2.4.1 The site should be changed as needed.

- ***The dwell time of the subcutaneous access device is variable, based on fluid volume and the integrity of the site.***
- ***The subcutaneous site is rotated as clinically indicated based on the integrity of the site and patients comfort.***

- 2.4.2 The maximum volume for intermittent subcutaneous medication is 2 mL.
- 2.4.3 The subcutaneous site will be assessed each shift or visit for complications such as redness, tenderness, edema, bruising, burning, bleeding and leaking.
- 2.4.4 Each site will be labeled with the date it was inserted, medication name, concentration, and initials of nurse.

2.5 Tubing and Solution Change

- 2.5.1 All tubing and solution will be changed every 7 days for continuous infusions and 96 hours for intermittent infusions, with site change or immediately if contamination or system integrity is compromised or as per site specific policy.
- 2.5.2 All tubing will be labeled with the date and time it was initiated, date and time to be discarded or changed, and initials of nurse.

2.6 Contraindications

- 2.6.1 Clients with an increased risk of pulmonary congestion or edema, existing fluid overload or reduced local tissue perfusion may not tolerate continuous subcutaneous infusions.
- 2.6.2 Clients with anticoagulation and clotting disorders may not tolerate subcutaneous access due to bleeding at the injection site.

2.7 Special Considerations

- 2.7.1 Hand hygiene will always be performed as per policy before and after palpating catheter insertion sites as well as before and after inserting, replacing, accessing a subcutaneous catheter or dressing a subcutaneous site.
- 2.7.2 Site selection for subcutaneous access should include areas with adequate subcutaneous tissue with intact skin such as the upper arms, subclavicular chest wall, abdomen, upper back, and thighs. Avoid skin folds or line of clothes (i.e. waistline), avoid scars and avoid two inch's around the umbilicus. Refer to Appendix A for Subcutaneous Insertion Sites.
- 2.7.3 Subcutaneous infusion solutions contain electrolytes. Examples of common solutions are:
 - 0.9% sodium chloride (normal saline)
 - 0.45% sodium chloride (half normal saline)
 - Dextrose 5% and 0.9% sodium chloride (D5NS)
 - Dextrose 3.33% and 0.3% sodium chloride (2/3 1/3)
 - Lactated Ringers
- 2.7.4 Infusions of more than 3000 ml /24 hours are not indicated for subcutaneous use.

3. PROCEDURES

3.1 Initiation of Subcutaneous Access

- 3.1.1 Gather supplies:
- Non-sterile gloves
 - Chlorhexidine 2% or Chlorhexidine 2%/Alcohol 70%
 - Needleless subcutaneous infusion device.(23-25 gauge)
 - Adapter for intermittent needleless access
 - Transparent, semi-permeable dressing

3.1.2 Perform hand hygiene and don gloves.

3.1.3 Cleanse selected insertion site.

Note: Antiseptic must be allowed to air dry before catheter insertion.

3.1.4 Remove white plastic clamp and needle guard from device.

3.1.5 For devices that require priming follow manufacturer's guidelines on priming amounts.

3.1.6 Be sure bevel is pointed upwards and not covered by the cannula. If bevel is not upwards, rotate white safety shield until bevel is up.

3.1.7 Grasp a fold of skin and while holding the pebbled sides of wings, insert needle at a 30-45° angle to full length in one quick, smooth movement. Refer to Appendix B for subcutaneous device insertion.

Note: When inserting needle, insert in same direction as venous return (i.e. towards the shoulder joint in arm; towards the hip in leg; any direction in the chest avoiding breast tissue; towards the umbilicus in the abdomen). When using the abdomen, avoid the 2-inch diameter around the umbilicus and direct the needle laterally to prevent pinching when the client sits or bends.

3.1.8 There should be no blood return into the tubing. If blood return is noted, activate safety engineered device, remove catheter and initiate a new site using a new set.

3.1.9 To activate the safety mechanism, grasp white safety shield and pull in a straight continuous motion while supporting the device by applying pressure to wings. The shield will come off exposing the injection cap. Dispose of shield in sharps container.

Note: This is for a Saf-T-intima Device

3.1.10 Do not apply tape to wings. Cover with a sterile, transparent, semi-permeable dressing.

3.1.11 Replace injection cap with needleless connector that maintains a closed system and secure any loose tubing, tighten all connections.

3.1.12 Remove gloves and perform hand hygiene.

3.1.13 Label site with date of insertion, initials of nurse inserting device, and the name and concentration of medication that will be infused.

3.1.14 Document date and time of insertion, insertion site, solution and complications during procedure.

3.2 Using Subcutaneous Access Site for Intermittent Subcutaneous Medication Administration

3.2.1 Assess condition of site as per 2.3.3. Change site as necessary.

3.2.2 Prior to accessing any port or cap, clean the surface with an alcohol swab or a chlorhexidine swab for 15 seconds using friction and a twisting motion. Allow to dry.

3.2.3 If site is used for multiple medications, flush with normal saline after each medication. The amount of normal saline is according to the device manufacturers guidelines. If the site is used for single medication use, do not flush with normal saline after medication and only use the dosage volume required.

Note: *There is no current evidence in the literature to favor multiple sites versus multi-use sites for medication administration. Healthcare professionals should refer to compatibility monographs and should also remain mindful of the maximum volume for intermittent subcutaneous medications of 2 mL.*

3.2.4 Attach labeled medication syringe and inject slowly.

Note: *Tissue swelling is expected with subcutaneous injection. Do not massage site.*

3.2.5 Document medication administration as per institutional policy on the Medication Administration Record.

3.3 Initiation and Maintenance of Continuous Subcutaneous Infusions

Note: *Refer to standard text: Perry, A., Potter, P. & Ostendorf, W. (2014). Clinical Nursing Skills & Techniques, pp. 580-584. Note the following exceptions to/clarifications of the textbook information:*

3.3.2 Deliver continuous subcutaneous administration of medications by infusion pump. Continuous fluid administrations can be administered by gravity or infusion pump.

3.3.3 Monitor patient for systemic fluid overload, local and/or dependent edema, cellulitis, erythema, pain and leaking at site q shift and prn.

3.3.4 Document solution type and volume infused as per institutional policy.

4. REFERENCES

BD Saf-T-Intima. First Choice Integrated Safety IV Catheter System for Subcutaneous Infusion Therapies. Hidden Talents of BD Saf-T-Intima. Retrieved August 19, 2014 from the World Wide Web: <http://www.bd.com/europe/safety/en/pdfs/Saf-T-Intima%20use%20Guide.pdf>

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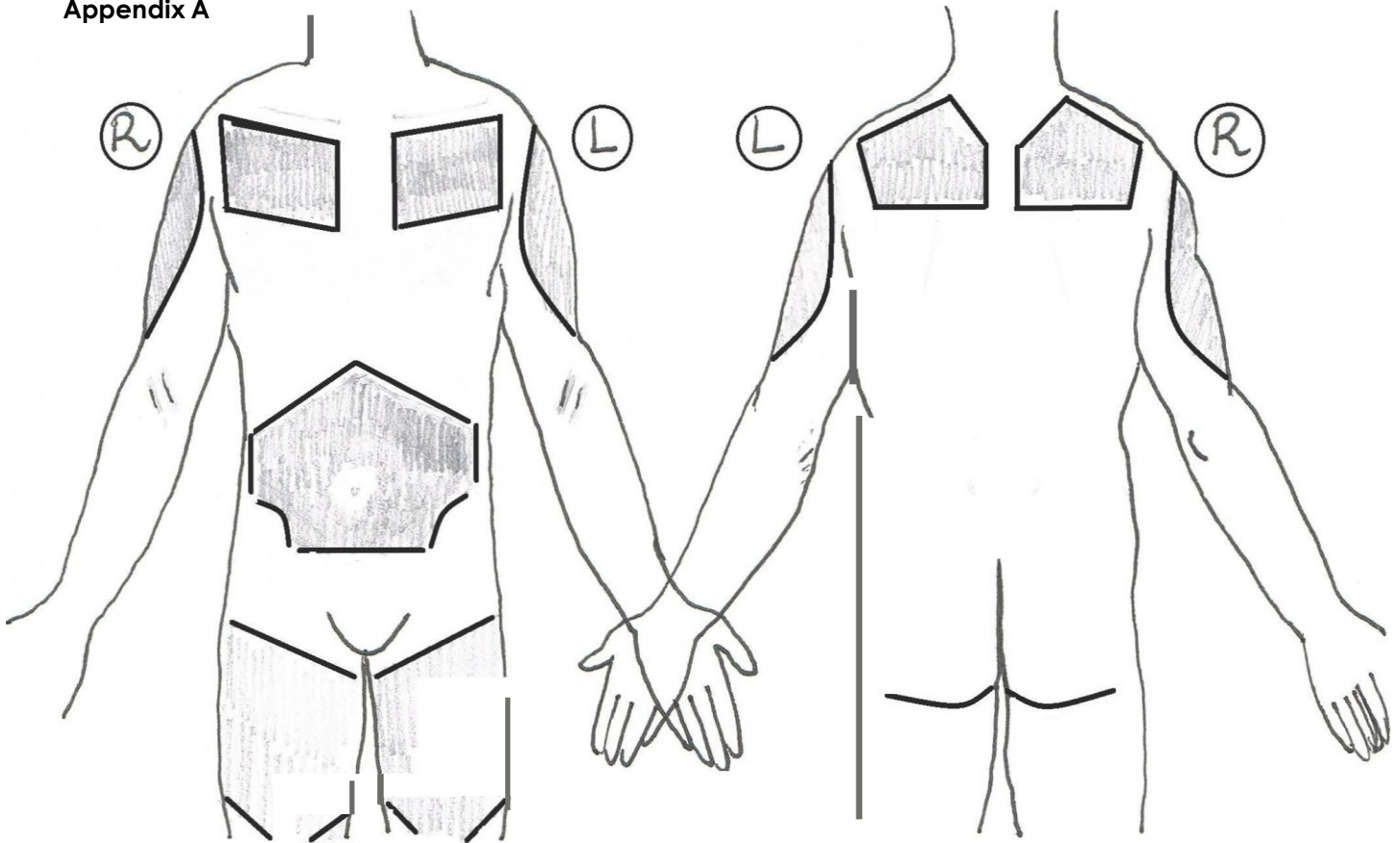
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Winnipeg Regional Health Authority Palliative Care Program (February, 2010). Procedure for Subcutaneous Insertion, Removal, Medication Administration and Fluid Administration for Community Palliative Care Patients. [On-line]. Available: http://www.virtualhospice.ca/Assets/Palliative%20Care%20Community%20SQ%20policy%2028-2010_20120109162030.pdf

Appendix A



*Shaded in areas are appropriate sites for clysis or subcutaneous medication administration. *

Winnipeg Regional Health Authority Palliative Care Program (February, 2010). [Procedure for Subcutaneous Insertion, Removal, Medication Administration and Fluid Administration for Community Palliative Care Patients.](http://www.virtualhospice.ca/Assets/Palliative%20Care%20Community%20SQ%20policy%2028-Feb-2010_20120109162030.pdf) [On-line]. Available: http://www.virtualhospice.ca/Assets/Palliative%20Care%20Community%20SQ%20policy%2028-Feb-2010_20120109162030.pdf

BD Saf-T-Intima for Subcutaneous infusion therapy

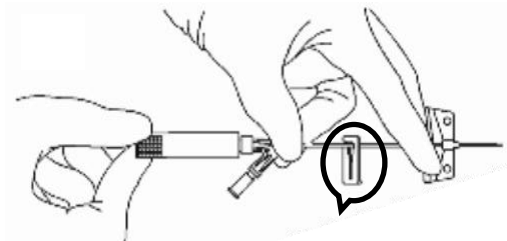
1. Preparation

Hold as shown and rotate the white safety shield to loosen needle.

Ensure bevel is up and visible.

Remove white clamp.

Priming is not required.



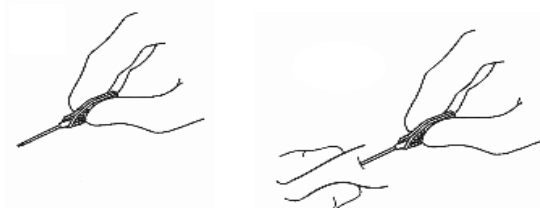
REMOVE

2. Insertion

Grasp the textured sides of wings and pinch them together firmly.

Use thumb and index finger to gently pinch skin at selected site to identify subcutaneous tissue.

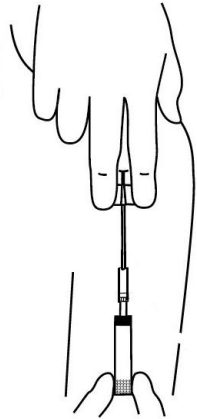
Insert the full length of the needle through the skin at 30°-45° angle.



3. Safety Engineered Device - Needle Removal

Lay the wings flat on skin surface and pull the white safety shield in a straight, continuous motion until the safety shield separates from the catheter system.

Discard the needle immediately in a sharps container.



4. Stabilization

Secure the wings/catheter to the skin with a transparent dressing covering insertion site.

