	Policies and Procedures Title: SUBCUTANEOUS THERAPY - INTERMITTENT AND CONTINUOUS – ADULT & PEDIATRIC RN AND LPN ENTRY LEVEL COMPETENCY I.D. Number: 1074
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For the purpose of this policy, client will be used when referring to clients, patients and residents.

DEFINITIONS

BD Saf-T-Intima™ – An indwelling subcutaneous catheter device used for subcutaneous administration of medication or fluid, either as a continuous infusion or for breakthrough/bolus doses.

Hypodermoclysis (HDC) – Refers to the subcutaneous administration of fluid and electrolytes for the treatment and prevention of mild to moderate dehydration. For all other uses, the term subcutaneous therapy should be used.

Insuflon™ – An indwelling subcutaneous catheter device used for frequent subcutaneous administration of medication. This device requires a needle and syringe to administer medication.

Preparatory Information – Refers to procedural and sensory information provided to the client prior to a procedure. Procedural information includes a description of the steps of the procedure. Sensory information includes a range of what the client may feel during the procedure.

Subcutaneous Therapy – Refers to the establishment of subcutaneous access for repeated/ intermittent medication doses and/or continuous subcutaneous infusion of medication.

ROLES

Graduate Nurses (GNs) and Graduate Licensed Practical Nurses (GLPNs) will practice subcutaneous therapy under the direct supervision of an RN or LPN until deemed competent.

Registered Nurses (RNs) and Licensed Practical Nurses (LPNs) will:

- Initiate and maintain intermittent subcutaneous access
- Administer intermittent subcutaneous medication via established access
- Initiate and maintain continuous subcutaneous infusions (medications/fluids)

Registered Psychiatric Nurses (RPNs) – the role of RPNs with subcutaneous therapy is under review by the Nursing Practice Committee. RPNs who are currently educated or certified in subcutaneous therapy may continue to provide care. New RPNs will not be educated or certified to provide subcutaneous therapy until the review is completed.

1. PURPOSE

- 1.1 To guide safe practice associated with the insertion and maintenance of subcutaneous therapy and HDC.
- 1.2 To prevent infections and other complications associated with subcutaneous therapy and HDC.

2. POLICY

- 2.1 An accurate and complete allergy/intolerance history must be obtained or verified prior to prescribing, dispensing or administering any medications as per SHR Regional policy “Allergy/Intolerance Documentation” #7311-60-029.
- 2.2 A practitioner order is required for medication/fluid therapy as per SHR Regional policy “Ordering of Medications” #7311-60-004.
- 2.3 Verification of client identification will occur prior to any type of service provision as per SHR Regional policy “Verification of Identification” #7311-60-017.
- 2.4 Refer to SHR Regional policy “High Alert Medications – Identification, Double Check and Labeling” #7311-60-020 prior to administering any high alert medication and for specific documentation required.

2.5 Subcutaneous Site Change

- 2.5.1 Site rotation recommendations:
 - every 24 to 48 hours or after 1.5 to 2 litres of solution has infused and prn for client’s who receive HDC
 - every 7 days and prn for sites used for medication administration

Note: *The dwell time of the subcutaneous access device is variable, based on individual factors, medication, fluid volume and the integrity of the site. **The subcutaneous site is rotated as clinically indicated based on the integrity of the site as per 2.5.2.***

- 2.5.2 The subcutaneous site/device will be assessed each shift or visit and prior to all medication administration for complications such as redness, tenderness, edema bruising, bleeding, burning, leaking, blood in tubing and cannula displacement. If any of these signs are present, a new subcutaneous device will be initiated prior to removal of the old one to ensure rotation of sites. Rotation of sites prevents tissue damage and formation of lipohypertrophies.
- 2.5.3 Each site will be labeled with the date it was initiated, medication name and concentration, and initials of nurse.

2.6 Tubing and Solution Change

- 2.6.1 All tubing and solution will be changed every 96 hours, with site change or immediately if contamination or system integrity is compromised. Refer to SHR Nursing policy “Intravenous and/or Peripheral Saline Lock Insertion and Maintenance” #1118.
- 2.6.2 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.
- 2.6.3 Medications mixed on the unit will hang no longer than 24 hours. Refer to SHR Nursing policy “Medication Administration” #1170.

Note: *Stability of medication in solutions may require more frequent change. Refer to the Saskatchewan Parenteral Manual:*

<https://collaboration.web.ehealthsask.ca/sites/smartpump/Pages/AdultMonographs.aspx>

<https://collaboration.web.ehealthsask.ca/sites/smartpump/Pages/PediatricMonographs.aspx>

2.7 Contraindications

- 2.7.1 Clients who do not have adequate subcutaneous tissue and if less than 2 kg in weight in the pediatric population.
- 2.7.2 Clients less than 5 kg who are receiving heparin or low molecular weight heparin (LMWH) (i.e. Enoxaparin) due to the risk of hematoma.
- 2.7.3 Clients with anticoagulation and clotting disorders may not tolerate subcutaneous access due to bleeding at the injection site.
- 2.7.4 HDC is not appropriate in clients with severe dehydration or shock, severe renal or hepatic failure, increased risk of pulmonary congestion or edema, existing fluid overload, and reduced local tissue perfusion.

2.8 Special Considerations

- 2.8.1 Hand hygiene will always be performed before and after palpating subcutaneous insertion sites; applying topical anesthetic cream; inserting, replacing or accessing a subcutaneous catheter; dressing a subcutaneous site; and discontinuing subcutaneous access as per Infection Prevention & Control policy “Hand Hygiene” 20-20.
- 2.8.2 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 anterolateral thighs. **Refer to Appendix A for Subcutaneous Insertion Sites.**

Note: *Preferred insertion sites for infants is posterior aspect of upper arm and anterolateral aspect of upper thigh. The subclavicular chest wall site is NOT recommended for the pediatric population.*

Note: For clients with altered cognitive status, the upper back can be useful to prevent accidental removal.

Note: Avoid the 2" (5cm) diameter around the umbilicus, skin folds or clothing lines (i.e. waistline), breast tissue, bony prominences, tumor or radiation sites, areas of induration, inflammation, infection, edema, ascites, broken skin, bruises, masses, abrasions, moles, burns, scar tissue or area in close proximity to central lines.

2.8.3 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; horizontal and towards the umbilicus in the abdomen, or up to 30° from horizontal line, to prevent pinching when the client sits or bends).

2.8.4 If administering more than one medication, use a separate site for each medication.

2.8.5 Recommendations for maximum volume for intermittent subcutaneous medication administration are:

- 0.5 mL for infants and small children
- 1.0 mL for pre-school and school-aged children
- 2.0 mL for adults

Note: Use an additional subcutaneous site if the medication volume exceeds the recommended maximum volume per site.

2.8.6 Apply pharmacologic or non-pharmacologic comfort strategies, based on client age and preference, to minimize fear and pain during needle insertion. Pharmacologic strategies (prescriber order required) may include applying topical anesthetic cream 30-60 minutes prior to insertion (see product instructions) or oral sucrose for infants and children 24 months and younger. Refer to SHR Nursing policy "Sucrose Solution for Infant and Pediatric Procedural Pain Management" #1102. Non-pharmacologic comfort strategies depend on the client's age and may include thermal agents (warm or cold compresses applied before and/or after insertion), comfort positions, upright positioning during the procedure, preparatory information, distraction, progressive relaxation, deep breathing, guided imagery and positive reinforcement or reframing after needle insertion. For more information refer to:

https://www.saskatoonhealthregion.ca/locations_services/Services/pain-management/Pages/ChildProcPain.aspx

2.8.7 Appropriate solutions for HDC are:

- 0.9% Sodium Chloride (normal saline)
- 0.45% Sodium Chloride (half normal saline)
- Dextrose 5% and 0.9% Sodium Chloride (D5NS)
- Dextrose 5% and 0.45% Sodium Chloride (D5 1/2NS)
- Dextrose 3.33% and 0.3% Sodium Chloride (2/3 & 1/3)
- Lactated Ringers
- Solutions containing potassium (maximum concentration 40 mEq/litre)

2.8.8 Whenever possible, deliver continuous subcutaneous administration of fluids (HDC) by infusion pump. Continuous subcutaneous administration of medications will be

administered using a Smart Pump with Drug Error Reduction Software (DERS) as per SHR Nursing policy “Smart Pump – Medication and Parenteral Fluid Administration” #1054.

Note: CADD Solis Smart Pump available in Palliative Care. Cassettes are to be made by Pharmacy only. Orders will use an order sheet. Rate, incremental dose, pca dose/lockout are defined on the order sheet.

2.8.9 In Palliative Care, subcutaneous is the route of choice when oral route is not possible.

2.8.10 In the community, the RN will preload and label the medication for the client/caregiver to administer or will teach the client/caregiver how to draw up the medication. Check with Pharmacy regarding stability of medications. Teach proper medication administration technique including hand hygiene to the client/caregiver.

3. PROCEDURES

3.1 Initiation of Subcutaneous Access Using Insuflon™

3.1.1 Verify prescriber order and gather supplies:

- Non-sterile gloves
- Chlorhexidine 2% or Chlorhexidine 2%/Alcohol 70%
Note: For infants less than 2 months use Alcohol 70%.
Note: If allergy to chlorhexidine use alcohol and povidone-iodine.
- Subcutaneous indwelling catheter with adhesive dressing (Insuflon™)

Note: Insuflon™ may be utilized in clients over 2 kg in weight with adequate subcutaneous tissue.

Note: Due to risk of hematoma, clients receiving heparin or LMWH must weigh at least 5 kg to use an Insuflon™.

3.1.2 Perform hand hygiene.

3.1.3 Identify client and provide preparatory information.

3.1.4 Apply pharmacologic and non-pharmacologic comfort strategies based on client age and preference as per 2.8.6.

3.1.5 Perform hand hygiene and don clean gloves.

3.1.6 Remove topical anesthetic cream if applied. Remove gloves, perform hand hygiene and don clean gloves.

3.1.7 Cleanse selected insertion site and area to be covered by adhesive dressing. Allow to dry.

3.1.8 Ensure package containing the subcutaneous device is undamaged, sterile and within expiry date. Open package and maintain aseptic technique when handling the subcutaneous device.

- 3.1.9 Carefully remove the needle guard from the subcutaneous device. The needle guard may be inserted into the rear of the device to aid handling. **Refer to Appendix B for Insertion of Insuflon™ Device.**

Note: *Do not pre-prime the subcutaneous infusion device.*

- 3.1.10 Assistance may be required to stabilize client's limb, particularly for infants and children. Engage caregivers to hold younger children in a comfort position (i.e. child sitting on caregiver's lap with his/her back against caregiver's chest while stabilizing limbs). Caregivers can also provide distractions (i.e. toys) or coach the child on relaxation strategies (i.e. 4 slow deep breaths) during needle insertion.
- 3.1.11 Grasp a fold of skin and insert needle, bevel up, at a 20-45° angle to full length in one quick, smooth movement.
- 3.1.12 Remove needle by holding catheter hub firmly and pull needle out slowly, leaving catheter in place.
- Note:** *Do not reinsert needle if catheter is dislodged/withdrawn. Repeat procedure with new subcutaneous device.*
- 3.1.13 Dispose of needle in sharps container.
- 3.1.14 Using aseptic technique, secure device by applying adhesive dressing from catheter end first, ensuring insertion site is visible through plastic window and hub is open to air. Smooth out dressing.
- 3.1.15 For children, positive reframing of the experience can modify a child's memory for the procedure and reduce fear and pain in subsequent procedures. Provide positive reinforcement to the child on coping strategy attempts and the benefits of the procedure.
- 3.1.16 Remove gloves and perform hand hygiene.
- 3.1.17 Label site with date of insertion, initials of nurse inserting device, and the name and concentration of medication that will be infused.
- 3.1.18 Document insertion and ongoing care of subcutaneous access in the Care Plan and Progress Notes or sector specific records q shift or visit and prn.
- 3.1.19 **Refer to Appendix D for Subcutaneous Infusion Guidelines.**

3.2 Intermittent Subcutaneous Medication Administration Using Insuflon™

- 3.2.1 Verify prescriber order and gather supplies:
- Non-sterile gloves
 - Medication
 - Syringe (i.e. 1 mL Tuberculin syringe with luer-lock tip SKU# 50611)
 - 27-31 gauge needle, length of needle should not exceed $\frac{3}{8}$ " (9 mm)
 - Medication label
 - Alcohol swab

Note: *Insuflon™ catheters have a dead space of 0.0075 mL. If more than 10% of medication is lost in dead space, consult prescriber and Pharmacy before using catheter. A small amount of compatible solution may be considered to flush medication if necessary.*

3.2.2 Perform hand hygiene.

3.2.3 Prepare medication for subcutaneous injection.

Note: *If the concentration of medication is changed, initiate a new subcutaneous site for the new concentration of medication. This will ensure that the accurate dose of medication is administered.*

3.2.4 Perform hand hygiene and don clean gloves.

3.2.5 Identify client and provide preparatory information.

3.2.6 Assess condition of site as per 2.5.2. Change site as necessary as per 3.1.

3.2.7 Prior to accessing hub, clean for 15 seconds using an alcohol swab and friction in a twisting motion. Allow to dry.

3.2.8 Insert needle of labeled medication syringe into the Insuflon™ with the bevel down. The needle must penetrate the membrane by at least $\frac{1}{8}$ " (3 mm) and not more than $\frac{3}{8}$ " (9 mm). Inject medication slowly.

Note: *Do not use a needle larger than 27 gauge, as it is difficult to insert and may damage membrane.*

Note: *Length of needle should not exceed $\frac{3}{8}$ " (9 mm). If longer needle is used, only insert it partially into hub. Do not insert needle beyond catheter hub as it can damage the catheter.*

Note: *Do not flush the subcutaneous infusion device before or after use unless more than 10% of medication is lost in dead space and instructions have been given to flush the device.*

3.2.9 Hold hub, remove needle and discard in sharps container.

3.2.10 If administering heparin or LMWH, apply firm pressure to site for 5 minutes to minimize bruising.

3.2.11 Remove gloves and perform hand hygiene.

3.2.12 Document medication administration as per sector policy on the appropriate Medication Administration Record.

3.3 Initiation of Subcutaneous Access Using BD Saf-T-Intima™

3.3.1 Verify prescriber order and gather supplies:

- Non-sterile gloves

- Chlorhexidine 2% or Chlorhexidine 2%/Alcohol 70%
Note: *If allergy to chlorhexidine use alcohol and povidone-iodine.*
- 24 gauge $\frac{3}{4}$ " (19mm) subcutaneous indwelling catheter (BD Saf-T-Intima™)
- Adapter for intermittent needleless access
- Transparent, semi-permeable dressing

3.3.2 Perform hand hygiene.

3.3.3 Identify client and provide preparatory information.

3.3.4 Clip hair in area to be covered by transparent dressing with surgical clippers if excessive hair is present.

3.3.5 Apply pharmacologic and non-pharmacologic comfort strategies based on client age and preference as per 2.8.6.

3.3.6 Perform hand hygiene and don clean gloves.

3.3.7 Remove topical anesthetic cream if applied. Remove gloves, perform hand hygiene and don clean gloves.

3.3.8 Cleanse selected insertion site and area to be covered by transparent dressing. Allow to dry.

3.3.9 Ensure package containing the subcutaneous device is undamaged, sterile and within expiry date. Open package and maintain aseptic technique when handling subcutaneous device.

3.3.10 Remove white plastic clamp and needle guard from device.

Note: *Do not pre-prime the subcutaneous infusion device tubing.*

3.3.11 Be sure bevel is pointed upwards and not covered by the catheter. If bevel is not upwards, rotate white safety shield until bevel is up. **Refer to Appendix C for Insertion of BD Saf-T-Intima™ Device.**

3.3.12 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.

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

3.3.14 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.

3.3.15 Do not apply tape to wings. Using aseptic technique, secure device by covering with a sterile, transparent, semi-permeable dressing.

3.3.16 Replace injection cap with needleless adapter and secure any loose tubing.

- 3.3.17 Remove gloves and perform hand hygiene.
- 3.3.18 Label site with date of insertion, initials of nurse inserting device, and the name and concentration of medication that will be infused.
- 3.3.19 Document insertion and ongoing care of subcutaneous access in the Care Plan and Progress Notes or sector specific records q shift or visit and prn.
- 3.3.20 **Refer to Appendix D for Subcutaneous Infusion Guidelines.**

3.4 Intermittent Subcutaneous Medication Administration Using BD Saf-T-Intima™

- 3.4.1 Verify prescriber order and gather supplies:
 - Non-sterile gloves
 - Medication
 - Syringe (i.e. 1 mL Tuberculin syringe with luer-lock tip SKU# 50611)
 - Medication label
 - Alcohol swab
- 3.4.2 Perform hand hygiene.
- 3.4.3 Prepare medication for subcutaneous injection. For the **initial access** of the tubing for an intermittent medication when using a newly inserted device, draw up and administer an **extra 0.35 mL** of medication.

Note: *This allows for tubing dwell volume (priming) and provides the client with the full dose of medication. **Subsequent doses with an existing device do not require the extra 0.35 mL.***

Example: For Dilaudid 0.5 mg SC Q1hr PRN. If using Dilaudid 2 mg/mL:

- 0.5 mg = 0.25 mL of medication
- 0.25 mL + **extra 0.35 mL** = 0.6 mL of medication for initial access
- 1.0 mL – 0.6 mL = 0.4 mL of wastage
- Document wastage in milligrams (0.4 mL = 0.8 mg)

Note: *If the concentration of medication is changed, initiate a new subcutaneous site for the new concentration of medication. This will ensure that the accurate dose of medication is administered.*

- 3.4.4 Perform hand hygiene and don clean gloves.
- 3.4.5 Identify client and provide preparatory information.
- 3.4.6 Assess condition of site as per 2.5.2. Change site as necessary as per 3.3.
- 3.4.7 Prior to accessing needleless adapter, clean for 15 seconds using an alcohol swab and friction in a twisting motion. Allow to dry.
- 3.4.8 Attach labeled medication syringe and inject slowly.

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

Note: Do not flush the subcutaneous infusion device before or after use.

3.4.9 Remove gloves and perform hand hygiene.

3.4.10 Document medication administration as per sector policy on the appropriate Medication Administration Record.

3.5 Initiation and Maintenance of Continuous Subcutaneous Infusions Using BD Saf-T-Intima™

3.5.1 Gather supplies:

- Non-sterile gloves
- Solution/Medication as ordered
- Medication label
- Infusion pump and tubing
- Alcohol swab

3.5.2 Verify prescriber order. Order must include type of solution/medication, route, and dose/rate of infusion.

3.5.3 Perform hand hygiene.

3.5.4 Prepare infusion/medication. Complete and attach a medication label to the infusion bag with medication added by nurse as per SHR Nursing policy “Medication – Administration” #1170.

3.5.5 Perform hand hygiene and don clean gloves.

3.5.6 Identify client and provide preparatory information.

3.5.7 Initiate subcutaneous access as per 3.3 if not insitu.

Note: With HDC, sites in upper thighs and lower abdomen may be associated with swelling of genitalia.

3.5.8 Prior to accessing needleless adapter, clean for 15 seconds using an alcohol swab and friction in a twisting motion. Allow to dry.

3.5.9 Attach primed administration set to needleless adapter and program infusion rate as ordered. Attach label to distal end of tubing indicating that it is a subcutaneous infusion.

Note: *Rate for HDC varies according to client needs and prescriber orders, and should be adjusted according to client tolerance. Initiate infusion at 20 mL/hr then titrate up to ordered rate according to site assessment and client tolerance. Recommended rate of infusion is between 20-80 mL/hr. Maximum infusion volume should not exceed 3 L in 24 hr using two subcutaneous sites simultaneously (1.5 L/site).*

Note: *Some swelling at insertion site is a normal occurrence. However, excessive swelling and/or pain may be associated with improper placement of needle or rapid rate of infusion. If this occurs, stop infusion and notify prescriber.*

Note: *For adults, continuous medication infusion rates greater than 25 mL/hr may not be tolerated. For pediatrics, the maximum medication infusion rate is 1-3 mL/hr. Refer to the Saskatchewan Parenteral Manual or contact Pharmacy for standard concentrations, solution compatibility and stability of medication in solutions:*

<https://collaboration.web.ehealthsask.ca/sites/smartpump/Pages/Adult-Monographs.aspx>

<https://collaboration.web.ehealthsask.ca/sites/smartpump/Pages/Pediatric-Monographs.aspx>

- 3.5.10 Remove gloves and perform hand hygiene.
- 3.5.11 Monitor for signs of systemic fluid overload, adverse response to therapy, local and/or dependent edema, cellulitis, erythema, pain and leaking at site at least q 4 hours and prn.
- 3.5.12 Document solution type and volume infused on the fluid balance record.
- 3.5.13 Document medication administration as per sector policy on the appropriate Medication Administration Record.
- 3.5.14 Document initiation and ongoing care of continuous subcutaneous infusion in the Care Plan and Progress Notes or sector specific records q shift or visit and prn.
- 3.5.15 Verify correct solution/medication, route, and dose/rate of infusion q shift or visit and prn as per SHR Nursing policy “Medication-Administration” #1170.

4. REFERENCES

BC Children’s Hospital – Sunny Hill. *Continuous Subcutaneous Medication or Fluid Infusion*. BC Children’s Hospital Child & Youth Health Policy and Procedure Manual. CM.03.29. Available from: [http://policyandorders.cw.bc.ca/resource-gallery/Documents/BC%20Children's%20Hospital/CM.03.29%20\(NM030\)%20Medication%20Administration%20-%20Continuous%20Subcutaneous%20Infusion\[2599\]\[8480\].pdf](http://policyandorders.cw.bc.ca/resource-gallery/Documents/BC%20Children's%20Hospital/CM.03.29%20(NM030)%20Medication%20Administration%20-%20Continuous%20Subcutaneous%20Infusion[2599][8480].pdf)

BC Children’s Hospital – Sunny Hill. (2017). *Indwelling Subcutaneous Catheter (Insufion®) Insertion, Medication Administration and Removal*. BC Children’s Hospital Child & Youth Health Policy and Procedure Manual. CM.03.26. Available from: [http://policyandorders.cw.bc.ca/resource-gallery/Documents/Pharmacy,%20Therapeutics%20and%20Nutrition/Indwelling%20Subcutaneous%20Catheter%20\(Insufion\)%20Insertion%20Medication%20Administration%20and%20Removal.pdf](http://policyandorders.cw.bc.ca/resource-gallery/Documents/Pharmacy,%20Therapeutics%20and%20Nutrition/Indwelling%20Subcutaneous%20Catheter%20(Insufion)%20Insertion%20Medication%20Administration%20and%20Removal.pdf)

BC Guidelines. (2017). *Appendix A: Hypodermoclysis Protocol*. Available from: http://www2.gov.bc.ca/assets/gov/health/practitioner-pro/bc-guidelines/palliative2_nausea_hypodermoclysis.pdf

BD Saf-T-Intima™. *First Choice Integrated Safety IV Catheter System for Subcutaneous Infusion Therapies. Hidden Talents of BD Saf-T-Intima™*. Available from: <http://www.bd.com/europe/safety/en/pdfs/Saf-T-Intima%20use%20Guide.pdf>

Bowden V.R. & Greenburg, C.S. (2012). *Pediatric Nursing Procedures*, 3rd Edition. Lippincott Williams & Wilkins. Chapter 69: Medication Administration - Subcutaneous.

Capital Health Regional Pharmacy Services. (2005). *Palliative Care Medications Commonly Used Subcutaneously*. Available from: <http://www.palliative.org/NewPC/pdfs/management/scchartFeb05.pdf>

Covenant Health. (2017). *Hypodermoclysis (HDC) Administration*. Available from: <http://extcontent.covenanthealth.ca/Policy/VII-B-315.pdf>

Hospital Pharmacists’ Special Interest Group in Palliative Care. (2009). *Care Beyond Cure: Management of Pain and Other Symptoms*, 4th Edition. Montreal, Quebec. Chapter 7: Innovative Routes of Therapy, pp. 120-122.

Infusion Nurses Society. (2016). Continuous subcutaneous infusion and access devices. *Journal of Infusion Nursing*, 39(15), S122-124.

Infusion Nurses Society. (2016). *Policies and Procedures for Infusion Therapy*, 5th Edition. Subcutaneous Access Device: Placement and Infusion Administration, pp. 202-205.

Insufion™. *Inserting and Using the Insufion™ Subcutaneous Catheter*. Available from: http://www.applied-medical.co.uk/PDF/Insufion_Instructions_2010.pdf

Insufion™. Insertion, Removal and Maintenance of Insufion™ Subcutaneous Catheter. Available from: http://intrapump.com/docs/Insufion_Brochure_insulin.pdf

James, S., Nelson, K. & Ashwill, J. (2013). *Nursing Care of Children – Principles & Practice*, 4th Edition. Elsevier.

Palliative Care Tips. (May, 2004). *Commonly Administered Sub-Cutaneous Medications in Palliative Care*. Available from:
http://palliative.org/NewPC/pdfs/tips/medadmin/Issue%2020_sc%20meds_watanabe.pdf

Perry, A., Potter, P. & Ostendorf, W. (2018). *Clinical Nursing Skills & Techniques*, 9th Edition. St. Louis, MO: Elsevier. pp. 593-600, 620-625.

Regina Qu'Appelle Health Region. (2015). *Hypodermoclysis (HDC): Initiating HDC & Monitoring Continuous HDC*. RQHR Nursing Procedure Manual. H.3.

Regina Qu'Appelle Health Region. (2015). *Subcutaneous Indwelling Catheter (Insuflon®): Insertion, Medication Administration, & Removal*. RQHR Nursing Procedure Manual. S.9.

Regina Qu'Appelle Health Region. (2017). *Subcutaneous Needleless Medication Administration (BD Saf-T-Intima™): Initiating a Subcutaneous Needleless Catheter, Intermittent Medication Administration & Continuous Medication Administration*. RQHR Nursing Procedure Manual. S.5.

The Royal Children's Hospital Melbourne. (2014). *Insuflon Insertion Guide*. Available from:
https://www.rch.org.au/rchcpg/hospital_clinical_guideline_index/Insuflon_insertion_guide/

The Royal Children's Hospital Melbourne. (2014). *Subcutaneous Catheter Devices Management of Insuflon and BD SafTIntima Devices*. Available from:
https://www.rch.org.au/rchcpg/hospital_clinical_guideline_index/Subcutaneous_catheter_devices_management_of_insuflon_and_BD_safTIntima_devices/

Victorian Paediatric Palliative Care Program. *Insertion and Maintenance of BD Saf-T-Intima*. Available from:
https://view.officeapps.live.com/op/view.aspx?src=http%3A%2F%2Fwww.rch.org.au%2FuploadedFiles%2FMain%2FContent%2Frch_palliative%2FINsertion_and_MAINTENANCE_of_BD_SAF.doc

Winnipeg Regional Health Authority Palliative Care Program. (2015). *Procedure for Subcutaneous Insertion, Removal, and Medication Administration*. Available from:
http://www.virtualhospice.ca/Assets/Palliative%20Care%20Community%20SQ%20Policy%20June2015_20160624111131.pdf

Related Policies:

SHR Nursing Policy & Procedure Manual

Intravenous and/or Peripheral Saline Lock Insertion and Maintenance #1118

Medication - Administration #1170

Medication Administration Record (MAR) #1091

Smart Pump – Medication and Parenteral Fluid Administration #1054

Sucrose Solution for Infant and Pediatric Procedural Pain Management #1102.

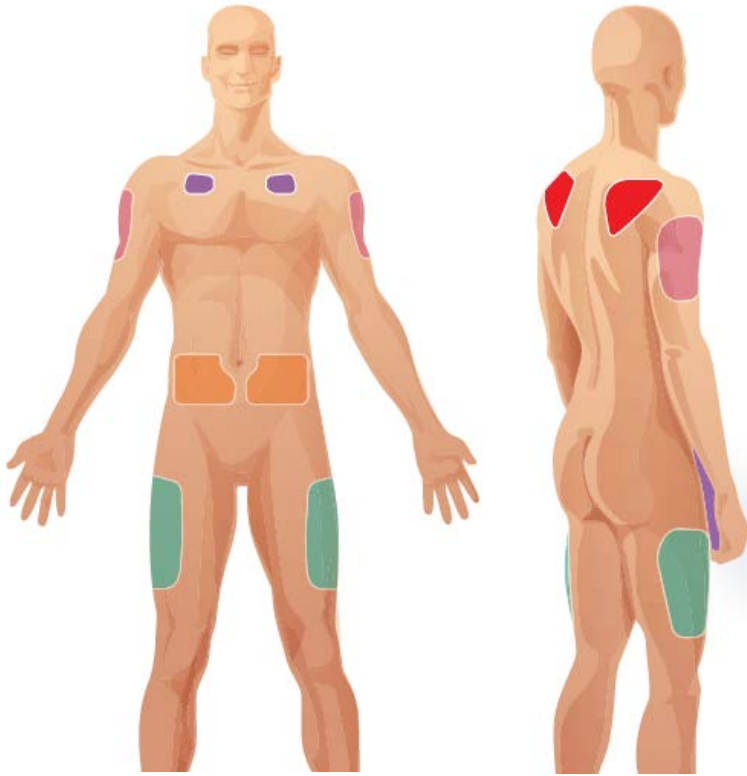
Infection Prevention & Control Manual

Hand Hygiene #20-20

Saskatchewan Parenteral Manual

<https://collaboration.web.ehealthsask.ca/sites/smartpump/Pages/Adult-Monographs.aspx>

<https://collaboration.web.ehealthsask.ca/sites/smartpump/Pages/Pediatric-Monographs.aspx>

SUBCUTANEOUS INSERTION SITES**Appendix A**

- Scapula
- Subclavicular chest Wall
- Anterior abdominal wall
- Anterior aspect of the upper arms
- Anterior aspects of the thighs

Upper Back (Scapula)

Use when other sites unsuitable or client confused/restless

Subclavicular Area

Avoid when client:

- has lung disease
- is active (risk of pneumothorax)

Upper Arms

Avoid if possible for HDC

Abdomen

Avoid in presence of tense abdominal pressure

Thighs

Best location for HDC

Note: *The following areas should be avoided when inserting subcutaneous access for either intermittent or continuous use:*

- Areas that have too little subcutaneous tissue
- 2" (5 cm) diameter around umbilicus
- Skin folds or clothing lines (i.e. waistline)
- Breast tissue
- Areas with bony prominences
- Tumor sites
- Sites that have been recently irradiated
- Sites with induration, inflammation or infection present
- Areas with lymphedema, edema or ascites
- Areas with broken skin, bruises, masses, abrasions, moles, burns or scar tissue
- Area in close proximity to central lines

BD Saf-T-Intima™ <http://www.bd.com/europe/safety/en/pdfs/Saf-T-Intima%20use%20Guide.pdf>

Winnipeg Regional Health Authority Palliative Care Program

http://www.virtualhospice.ca/Assets/Palliative%20Care%20Community%20SQ%20Policy%20June2015_20160624111131.pdf

Appendix B

INSERTION OF INSUFLON™ DEVICE

Inserting and Using the Insuflon™ Subcutaneous Catheter



1 In a clean area, remove the contents from the Insuflon™ package.



2 Carefully remove the introducer needle guard.



3 The needle guard may be inserted into the rear of the introducer to aid handling.



4 Pinch up the skin and insert the Insuflon™ at approx 30 to 45 degrees.



5 Advance the Insuflon™ until only a few millimetres of catheter remain visible.



6 Carefully remove the introducer needle without disturbing the catheter.



7 Remove the smaller tape cover from the front of the tape.



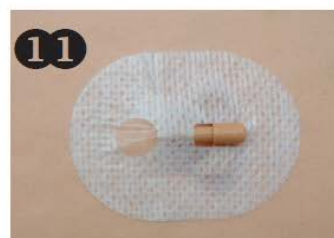
8 Place this over the cannula so that the entry point into the skin is visible in the clear area.



9 Remove the final piece of the tape protector.



10 Secure the remaining tape over the injection port, keeping it clear of the membrane.



11 Smooth the tape to ensure it is fully secure and examine the site.

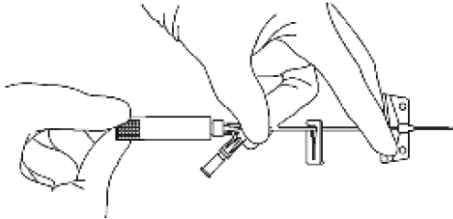
Note: Perform hand hygiene, don clean gloves and cleanse insertion site prior to inserting subcutaneous device.

Insuflon™. Inserting and Using the Insuflon™ Subcutaneous Cather. Available from: http://www.applied-medical.co.uk/PDF/Insuflon_Instructions_2010.pdf

INSERTION OF BD SAF-T-INTIMA™ DEVICE

BD Saf-T-Intima™ for Subcutaneous infusion therapy

1



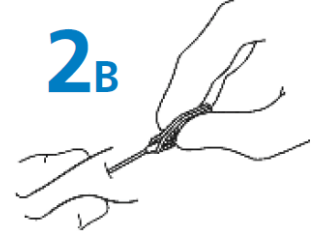
Preparation

- Hold as shown (Fig. 1) and rotate the white safety shield to loosen the needle. (Fig. 1).

2A



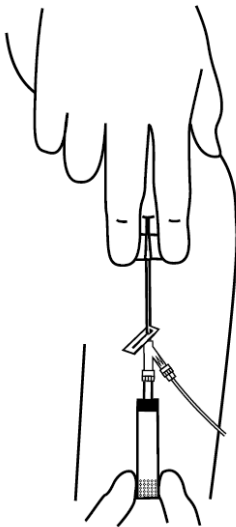
2B



Insertion

- Grasp the textured sides of wings and bring them together, pinching firmly. (Fig. 2A).
- Using thumb and index finger gently pinch the skin around selected site to identify the subcutaneous tissue. (Fig. 2B).
- Insert the full length of the catheter and needle through the skin at a 30°-45° angle. (Fig. 2B).

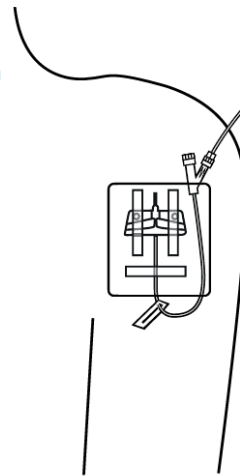
3



Needle Removal

- Lay the wings flat on the skin surface and pull the white safety shield in a straight, continuous motion until the safety shield separates from the safety system. (Fig. 3).
- Discard the needle immediately in a puncture resistant, leak-proof sharps container.

4



Stabilisation

- Secure the catheter and apply a sterile dressing per facility protocol.

BD Saf-T-Intima™. First Choice Integrated Safety IV Catheter System for Subcutaneous Infusion Therapies. Hidden talents of BD Saf-T-Intima™. Available from: <http://www.bd.com/europe/safety/en/pdfs/Saf-T-Intima%20use%20Guide.pdf>

Appendix D

SUBCUTANEOUS INFUSION GUIDELINES**SUBCUTANEOUS INFUSION THERAPY: RECOMMENDED DELIVERY METHODS**

	Continuous Infusion	Intermittent Subcutaneous Infusion
*Chlorpromazine (Largactil®)		Yes
*Dexamethasone (Decadron®)		Yes
*DimenhyDRINATE (Gravol®)		Yes
DiphenhydrAMINE (Benadryl®)		Yes
*FentaNYL	Yes	Yes
Furosemide (Lasix®)		Yes
*Haloperidol (Haldol®)		Yes
HYDROmorphine (Dilaudid®)	Yes	Yes
Hyoscine Butylbromide (Buscopan®)	Yes	Yes
Insulin (Regular)	Yes	Yes
Ketamine	Yes	Yes
*Lorazepam (Ativan®)		Yes
*Loxapine		Yes
*Methotrimeprazine (Nozinan®)	Yes	Yes
*Metoclopramide (Maxeran®)	Yes	Yes
*Midazolam (Versed®)	Yes	Yes
MORPhine	Yes	Yes
Naloxone (Narcan®)		Yes
Octreotide Acetate (Sandostatin®)	Yes	Yes
*Ondansetron (Zofran®)	Yes	Yes
*Phenobarbital	Yes	Yes
*Potassium Chloride	Yes	
Ranitidine		Yes
Scopolamine Hydrobromide	Yes	Yes
*SUFentanil (Sufenta®)	Yes	Yes

***NOT an officially approved method of administration.**

This list is not exhaustive. Pharmacy may be consulted for support with administration of medications into the subcutaneous space.

Adapted from Capital Health Regional Pharmacy Services, Hospital Pharmacists' Special Interest Group in Palliative Care, Palliative Care Tips & Saskatchewan Parenteral Manual. Reviewed by SHA Saskatoon Pharmacy February 2018.