# Parenteral Infusion Therapy (Subcutaneous Infusion - Hypodermoclysis) for Long-term Care

**10.3.16PR**

PROCEDURE

Procedures are a series of required steps to complete a task, activity or action

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| **Purpose:** | To administer parenteral fluids for hydration when:<br>• Resident is unable to ingest sufficient amount of fluid orally and has distressing symptoms that may respond to hydration.<br>• Intravenous access is not required, possible or practical.<br>• Resident presents with persistent nausea or vomiting.<br>• Resident does not require either immediate or high volume fluid replacement.<br>• Resident does not have respiratory congestion, large ascites or extensive edema.<br>• Resident requires parenteral hydration for a short trial of rehydration with clear goals and time frame (48 to 72 hours). |
| **Scope:** | • RN, RPN, LPN, Physician, NP<br>• Long-term Care Island Wide |
| **Outcomes:** | • Residents will receive hydration therapy in a safe manner, when required.<br>• Residents and their families will be provided information about the advantages of subcutaneous Infusion (hypodermoclysis) as a hydration strategy. |

## 1.0 Equipment

- 24 gauge Saf-T-Intima cannula
- Connector (e.g.MaxZero needleless)
- Transparent dressing
- Alcohol swab
- Tape (e.g. Micropore)
- IV tubing
- gloves
- 1000cc bag of solution as per physician's orders:
  - 0.9% sodium chloride (normal saline)
  - dextrose 3.33% and 0.3% sodium chloride (2/3-1/3)
  - Ringers Lactate

    *Do not use D5W as the infusion fluid; it draws fluid into the surrounding tissue and causes pain at the site.

## 2.0 Procedure

| Steps | Key Points |
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| **Assessment** | • To assess resident's hydration needs through appropriate history, physical and laboratory evaluation.<br>• To assess for other possible factors contributing to fluid problems including delirium, sepsis, bowel obstruction, hypercalcemia, vomiting or diarrhea, excess diuretic therapy.<br>• Review possible and likely causes for insufficient fluid intake based on individual situation.<br>• .<br>• From the possible criteria list, team including physician discuss purpose, benefit, procedure, and possible side effects of subcutaneous infusion to the resident/family. |

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| | • Assessment of the resident as needed for local complications:<br>1) Edema at Site<br>2) Redness and/or irritation at Site<br>3) Infection at Site<br>4) Dislodgment of Needle<br>• Assessment of the resident as needed for systemic complications:<br>1) Fluid Overload (extent of peripheral edema; presence of respiratory congestion)<br>2) Fluid Underload: (thirst, dry mouth, poor tissue turgor) |
| **Interventions** | • Physician will order infusion solution and total volume to be administered.<br>• Fluids infuse by gravity (no pump required). The rate of absorption will be dependent on the individual's fluid requirements and absorptive abilities of the tissues. The fluid is being infused into the third space – not into a vessel. Therefore, gravity and the tension in the third space will determine the time it takes for the specified amount of fluid to get absorbed and the actual flow rate through the tubing is not a consideration. The maximum of fluid infusion is 1.5 liters to 2 liters/24 hours per site (based on site assessment).<br>• Monitor site every shift for leakage, drainage, induration and/or redness and document.<br>• Infusion site will be monitored with each infusion or every shift if the site is not being used at regular intervals.<br>• Infusion site will be rotated every 24-48 hours for S/C hydration or after 1.5-2 liters to be defined by Clinical Order Set of infused fluid. |
| **Check physician's order** | • Subcutaneous solution needs physician order.<br>• Infusion solutions and rate of administration must be appropriate for subcutaneous infusion. |
| **Explain procedure to resident/ family** | • Get consent from resident and/or family. |
| **Gather supplies/equipment** | • See equipment list. |
| **Selection of infusion site** | • Selected infusion sites will have intact skin and be free of infection, bruising or scar tissue and have adequate subcutaneous tissue.<br>• Suggested site selections: upper arm, abdomen, upper back or thigh. |
| **Preparation of skin** | • Select infusion site and prep with CHG/Alcohol swab.<br>• Use friction and cleanse 5 cm area in a back and forth motion in 2 different directions for a minimum of 30 seconds.<br>• Allow to dry. |
| **Insertion of needle** | • Remove protective cover from Saf-T-Intima needle, and inspect unit.<br>• Ensure bevel is pointed upwards. If the bevel is not pointing upwards rotate white shield with pebbles at base of unit. When bevel is pointing upwards, grasp pebbled side of wings, pinching firmly to secure bevel position.<br>• Using thumb and index finger pinch the resident skin around the injection site creating a roll of 1.25 cm. to 2.5 cm. diameters.<br>• Insert needle through skin at 30-45degree angle. Insert needle to full length. Release wings and stabilize catheter wings on skin surface with thumb and index finger. |
| **Securing injection site** | • Apply sterile Transparent dressing over the insertion site and most of the tubing. |

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| | • Subcutaneous injection sites will be covered with transparent dressings at all times. |
| **Preparing to attach tubing** | • Grasp white shield and pull in a straight continuous motion. Place shielded needle into sharps container<br>• Loosely hold at injection site to prevent whole Saf-T-Intima from accidentally pulling out.<br>• Apply needless connector.<br>• Secure tubing to resident skin and apply label to site dressing including date, time and nurse's initials.<br>• Secure Saf-T-Intima cannula with tape to prevent dislodgment. |
| **Attaching parenteral fluids** | • Prime tubing with prescribed solution, scrub the hub of the needless connector with alcohol swab, min 10 sec. and attach tubing to needless connector.<br>• Label solution bag and subcutaneous site that this is for hydration only. Do not add medication.<br>• Adjust roller clamp to the rate ordered by the physician.<br>• After solution absorbed disconnect from needless connector. |
| **Monitoring/maintenance of site** | • Monitor site for leakage, drainage, induration or redness q1-2h.<br>• Change the solution bag every 24 hours.<br>• Sites fluids should be rotated q 24 to 48 hours or 1.5 -2.0 liters of infused fluids.<br>• Use new tubing set and bag with every new injection site start.<br>• **Do Not** mix hypodermoclysis solutions with medications. If medications are being administered by the subcutaneous route, use separate site(s). |
| **Documentation** | • Document following information in Progress Notes or in Electronic Health Record (EHR) where applicable:<br>  ○ Site used<br>  ○ Type of device (identify as Saf-T-Intima), including gauge<br>  ○ Date/Time of insertion<br>  ○ Resident's response to insertion<br>  ○ Nurse's initials/signature<br>• Document continuous subcutaneous infusion (intake) on Fluid Balance Record or in EHR where applicable.<br>• Document side effects or adverse reactions in Progress Notes or in EHR where applicable.<br>• Document resident's progress and clinical outcomes on the Progress Notes or in EHR where applicable.<br>• Specific interventions related to the subcutaneous infusion therapy are included in the resident Care Plan or in EHR where applicable. |

## 3.0 Definitions

- **Subcutaneous infusion (Hypodermoclysis**): Artificial hydration by the provision of parenteral fluids when a resident cannot be hydrated orally.

## 4.0 Related Island Health Standards

- 12.2.25PR Insertion of a Saf-T-Intima for Subcutaneous Access for Continuous Use

- 12.2.24P*R* Insertion of a Saf-T-Intima for Subcutaneous Access for Intermittent Use
- 12.6.6G Dehydration

## 5.0 References


- Mosby's Skills; Continuous Subcutaneous and Subcutaneous Injections Infusion on intranet
- Infusion Nurses Society (2011). Infusion Nursing Standards of Practice. *Journal of Infusion Nursing*, page S84. www.ins1.org