CONSIDERATIONS:

1. Prior to instituting therapy, describe the care required of the family in the absence of the nurse.
2. Patients considered for continuous subcutaneous infusion (CSI) are listed below:
    a. Patients unable to take medications by mouth because of physiological alterations (e.g. nausea/vomiting, gastrointestinal obstruction)
    b. Inability to tolerate the burden of oral therapies (e.g. numerous pills)
    c. Poor venous access; subcutaneous infusion of opioids is generally favored over the IV route in palliative/hospice patients due to ease of implementation, low risk of infusion site related problems, and lower cost
    d. Selected medication must be given via parenteral route (e.g. deferoxamine, terbutaline)
3. Medications given via CSI include, but are not limited to:
    a. Opioid analgesics (most common)
    b. Insulin
    c. Iron binding compounds (e.g. deferoxamine)
    d. Immunoglobulins
    e. Antiemetics
    f. Some antibiotics
    g. Haloperidol
4. An electronic infusion device (pump) is required to administer a CSI to ensure accurate, safe delivery.
5. Review special considerations related to narcotic analgesic infusions.
6. The optimal hourly infusion volume is unknown; however rates of up to 5 mL are reported.
7. Insertion sites should be monitored at least daily by patient/caregiver and by the nurse with every home visit.
8. Insertion sites should be changed every 3 to 7 days on an established schedule and as clinically indicated (e.g. presence of erythema, swelling, leaking of fluid, bruising, pain, burning). Insulin insertion sites will be changed every three days. Select sites at least 1 inch from previous site, using a new needle with each insertion attempt.
9. The subcutaneous access device can be inserted into any area having an ample amount of subcutaneous tissue. Potential sites are:
    a. Upper arm
    b. Thigh
    c. Abdomen
    d. Flank areas
    e. Subclavicular chest wall
10. A small gauge subcutaneous infusion device is used (25 - 27 gauge).
11. The insertion site should be dressed with a transparent semipermeable membrane dressing without gauze to allow visualization of site.
12. All tubing should be primed prior to insertion of cannula device.
13. The tubing and cassette/ infusion bag should be changed at least every 7 days or when the site is changed.
14. Patient/caregiver education should include the following:
    a. Purpose of medication/therapy
    b. Desired medication effect
    c. Potential side effects and adverse reactions
    d. Assessment of site
    e. Rotation of site, including insertion procedure
    f. Emergency phone numbers
    g. Use and care of infusion pump, including troubleshooting alarms

EQUIPMENT:

Gloves
Subcutaneous medication container
Infusion pump and tubing access device
Alcohol/Antimicrobial applicator (wipes/swab/disk/ampule)
Transparent semi-permeable adhesive dressing
Prefilled syringe of normal saline
Microbore 4 - 6 inch extension tubing, if needed
Puncture-proof container
Impervious trash bag

PROCEDURE:

1. Adhere to Standard Precautions.
2. Identify patient and explain procedure and purpose to patient/caregiver.
3. Place patient in a comfortable position.
4. Assess integument and identify appropriate insertion site.
5. Assemble equipment on a clean surface close to patient.
6. While maintaining aseptic technique, attach the subcutaneous cannula needle and extension to prefilled saline syringe.
7. Spike medication container.
8. Insert pump tubing into infusion pump according to manufacturer's instructions.
9. Perform skin antisepsis:
    a. If the site is excessively hairy, clipping is recommended
    b. Question the patient regarding allergies to adhesive tape and iodine
    c. Cleanse skin with antimicrobial solution.
        i. Chlorhexidine solution: apply using back and forth motion for at least 30 seconds
        ii. Povidone iodine: apply using swab sticks in a concentric circle beginning at the insertion site, moving outward; it must remain on the

skin for at least 2 minutes or longer to dry completely for adequate skin antisepsis

d. Allow skin to air dry. DO NOT blot

10. Pinch skin gently at site using the thumb and index finger to raise a fat fold of at least 1 inch.
11. Insert subcutaneous access device according to manufacturer's directions.
12. Aspirate subcutaneous device to assess for absence of blood; if blood return noted, remove device and access at another site with fresh device after skin antisepsis.
13. Cover with a transparent semi-permeable adhesive dressing. DO NOT use ointment at site.
14. Connect primed pump tubing to extension and initiate the infusion.
15. Discard soiled supplies in appropriate containers.
16. Wash hands.

AFTER CARE:

1. Document in patient record:
   a. Date, time, procedure and observations
   b. Medication dose, rate, time and site
   c. Appearance of CSQI site
   d. Patient's response to procedure
   e. Instructions given to patient/caregiver

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