

| <b>CRAIG HOSPITAL<br/>POLICY/PROCEDURE</b>   |   |
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| Approved: NPC, P&P 12/06; P&T 2/07;<br>IC, MEC 03/07; NPC, P&P 08/09; MEC 9/09<br>P&T 12/10; MEC, P&P 01/11, 04/11; NPC,<br>P&P 06/12, 06/15, 12/15 ; NPC, P&T, P&P<br>03/17 | Effective Date: 10/78   |
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| Forms: None  | Reviewed Date:  |

**SUBJECT: INTRAVENOUS THERAPY: PERIPHERAL LINE MANAGEMENT**

**RATIONALE:** To assure safe and effective practices in all activities related to peripheral intravenous therapy. Consistent care is established to assist with prevention of line sepsis and clotting.

**SCOPE:** Registered Nurses

**EQUIPMENT:** See individual sections

**POLICY:**

- I. Patient identification is required prior to initiating intravenous (IV) therapy or any changes with the current IV therapy plan per policy *RI 11 Patient Identification*. Patient identification will include two verifiers.
- II. RNs working with IV preparations will be familiar with aseptic technique.
- III. IVs utilizing additives will be prepared in the pharmacy.
- IV. Good hand washing and standard precautions with personal protective equipment should be used when accessing any IV site.
- V. IV sites should be assessed and findings documented at least BID in appropriate nursing documentation. Documentation should include; patency and appearance of site.
- VI. Smart programmable pumps are utilized in most situations and the drug specific library will be used Hard upper limits will not be exceeded.
- VII. The use of the Sapphire Multi Therapy pumps will be limited to Q4 or

**continuous antibiotics and will be used during therapy hours only.**

**VIII. RNs may initiate and discontinue peripheral IV catheters.**

**IX. Notify MD if IV cannot be started within 2 hours of the order**

**PROCEDURE:**

**I. STARTING A PERIPHERAL IV**

- A. RN will identify MD order for peripheral IV line
  - 1. Restrictions on site of insertion:
    - a. Not attempted in feet or legs of an adult without physician's order. When lower extremity IV is indicated, utilize smallest gauge catheter appropriate for the therapy, ensure patient is not ambulatory, and ensure IV is changed to an upper extremity or central line as soon as possible.
    - b. Not attempted on the limb of a patient who has had axillary lymph nodes removed or who has A-V shunt without physician's order.
    - c. Do not place IV in an extremity with a known blood clot without a specific physician's order.
  - 2. When attempting IV insertion:
    - a. No more than two unsuccessful attempts may be performed per nurse.
    - b. If unable to accomplish insertion, notify SMC IV team.
- B. Good hand hygiene before catheter insertion or maintenance, combined with proper aseptic technique provides protection against infection.
  - 1. Good hand hygiene can be achieved through the use of alcohol based hand sanitizer, or soap and water with adequate rinsing.
  - 2. Gloves are required to be worn as a standard precaution for the prevention of the spread of bloodborne pathogen exposure. A new pair of disposable nonsterile gloves in conjunction with a 'no touch' technique should be followed.
- C. RN will document IV insertion in appropriate nursing documentation (including IV site, type, gauge of catheter and number of attempts).
- D. A local anesthetic agent may be used when performing IV insertion unless patient refuses or use is contraindicated. (obtain order from physician).
- E. Bacteriostatic sodium chloride (with Benzyl Alcohol) is the drug of choice. Up to 0.5 cc. of 0.5% Lidocaine without epinephrine may also be used

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(obtain order from physician).

- F. An extension is placed on the angiocath on all IV starts and restarts. Exception: Do not place extension on IV lines used for contrast injection by radiology.
- G. Pre-op IV insertion will be started with #18 angiocath unless otherwise ordered, and macrodrip tubing. If unable to insert a #18 angiocath, document on pre-op check-list.

### II. ADMINISTRATION OF IV SOLUTIONS

- A. Peripheral IV sites will be changed by the RN PRN not to exceed 96 hours. If long-term peripheral IV use is anticipated, the RN must discuss the potential need for longer term IV access with the physician.
- B. RNs may administer IVs (maintenance and IV piggyback) via peripheral lines.
- C. The nurse hanging an IV solution will verify that the solution and additives are correct, that the solution is clear, without particulate, and the container is without leaks or cracks.
- D. Rate of infusion may be decreased following appropriate assessment of the patient's condition (i.e. fluid overload, combined rate of continuous and IVPB is greater than recommended rate of infusion through peripheral.
  - 1. Document and notify the physician of the change.
  - 2. Keep-open rate is 20-25 cc. /hr. (use a 250 cc. or 500 cc. bag when hanging a KVO IV).
- E. Arm boards
  - 1. Should be used for IVs located in the antecubital space and prn
  - 2. Should be used to facilitate delivery when a catheter is placed in an area of extremity flexion.
  - 3. The arm board should be removed every 8 hours to assess the extremity status for circulation and pressure.

### III. CHECKING IV INFUSIONS

- A. IV rounds will be made by the responsible nurse on each patient with an IV at the beginning of the shift to verify the following:
  - 1. Correct patient
  - 2. Correct solution.
  - 3. Correct additives.
  - 4. Correct rate of infusion.

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5. Quantity of solution
  6. Monitoring equipment appropriate.
  7. Insertion site is free from infiltration redness, and positioning problems.
  8. Tubing is current.
  9. Length of time IV site in place.
- B. IV infusions are to be checked at least every 4 hours for patients receiving non-vesicant fluids and every 1-2 hrs or more frequently if necessary for vesicant infusions and foot sticks.
1. Assess for pain, thrombosis, or infiltration. Look for redness, swelling, wet dressing, purulent drainage. Feel IV site for induration, swelling, warm, or tautness. Compare IV site to other extremity. Document findings of assessments at least once a shift.
  2. If symptoms present, assess extent of injury, follow instructions below for extravasation or infiltration, and/or start a new IV to continue prescribed infusion. Discontinue IV if indicated.
  3. If purulent drainage is present notify the attending MD, remove the catheter and culture the site if physician's order received.
  4. Record discontinuation and a description of catheter site in appropriate nursing documentation and IV fluid on MAR.
- C. Dressing changes will be performed by an RN
1. Document dressing changes in appropriate nursing documentation.
  2. Dressings will be labeled with the date of insertion, initials of the person inserting, size of the catheter, date of the dressing change, and initials of person changing the dressing.
  3. Peripheral line gauze dressings are changed every 48 hours. Transparent dressings are changed only when the dressing is compromised or with line change.
  4. The IV site will be cleansed with 2% chlorhexidine.
- D. Parenteral solutions will be labeled to indicate the rate of infusion, the date, and time of starting the infusion. **Do not** write on IV bag/container or tubing.
- IV. TUBINGS and FILTERS:** Refer to *IV 09 Intravenous Therapy: Central Line and PICC Management* policy for frequency of tubing changes and use of filters.
- V. FLUSHES**
- A. All lumens of peripheral lines that utilize an IV clave must be flushed after each medication or every 8 hours utilizing a 10cc syringe with 10cc of normal saline for injection.
- B. All normal saline flushes will be recorded on the MAR.

- VI. WITHDRAWING A BLOOD SPECIMEN FROM A PERIPHERAL IV:** Peripheral lines should not be used for routine blood sampling.
- VII. PREPARING IVs USING THE ADD-VANTAGE SYSTEM:** Refer to pharmacy guidelines.
- VIII. TREATMENT OF EXTRAVASATION (INFILTRATION) OF VESICANT OTHER THAN CHEMOTHERAPY**
- A. Stop infusion immediately and disconnect the IV tubing from the device. Leave IV catheter in place.
  - B. Aspirate any residual drug from the tissues as able through the existing IV device.
  - C. Notify the physician immediately.
  - D. Administer antidote and treatments per physician order (refer to Lexicomp and collaborate with pharmacy for instruction on management of extravasation with antidote for agent infused).
  - E. Elevate extremity to aid reabsorption of the infiltrate. (Best if done for 24-48 hrs after injury)
  - F. As indicated (per Lexicomp instruction) apply appropriate warm or cold compress for 15-20 minutes every 4 hours for 24-48 hrs.
  - G. Complete Incident Report.
  - H. Assess site of injury at least every 8 hours for 24 hours then daily depending upon the extent of infiltrate injury.
  - I. Document in appropriate nursing documentation.
- IX. REMOVAL OF PERIPHERAL LINES: only RNs may remove peripheral lines**
- A. Perform hand hygiene and don clean gloves.
  - B. Verify correct patient using two identifiers.
  - C. If fluids are infusing, turn electronic infusion device off and then clamp IV tubing.
  - D. Remove stabilization device, if used, and IV site dressing by gently pulling adhesive sections away from skin. Gently remove the tape, securing catheter while stabilizing the catheter to ensure the catheter is not dislodged. (Note: Adhesive remover can be used to loosen tape.)
  - E. Assess site for any complication such as infiltration or phlebitis.
  - F. Place clean sterile gauze above site and withdraw catheter, using a slow, steady motion. Keep the hub parallel to the skin.
  - G. Apply pressure to site for 2 to 3 minutes, using a dry, sterile gauze pad.
  - H. Inspect catheter for intactness after removal; note tip integrity and length.
  - I. Apply clean folded gauze dressing over insertion site, and secure with tape, or apply an adhesive bandage strip.

- J. Discard catheter and any soiled gauze sponges in biohazard container.  
Note: Do not discard catheter if it was broken.
- K. Discard used supplies, remove gloves, and perform hand hygiene.
- L. Observe site for evidence of bleeding.
- M. Observe site for redness, pain, drainage, or swelling.
- N. Instruct patient to notify nurse if bleeding or drainage is noted at insertion site or if pain or tenderness is experienced.
- O. Document the procedure in the patient's record.

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(Excerpted and adapted)

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