IREDELL HEALTH SYSTEM

Peripheral Intravenous Therapy	
Approved by: B. Quate, VPN Pam Gill, RN, CRNI Laura Rollings, PharmD, BCPS, BCGP	Last Revised/Reviewed Date: 06/2019
IMH Education Committee Nursing Leadership P&T Committee	Date: 06/2019 Date: 06/2019 Date: 02/2021

A. Personnel Policies:

1. Registered Nurses (RN) currently licensed and authorized by Iredell Memorial Hospital are permitted to start and hang IV fluids with or without medications.
2. Licensed Practical Nurses (LPN) may start IV fluids and perform those duties defined in the policy entitled "Intravenous Therapy by Licensed Practical Nurses".
3. CNA+4's may discontinue peripheral IV's (after yearly competency validation, *excluding neonates and pediatric patients 17 years of age or less*)

B. Procedural Policies:

1. When IV therapy is initiated on a patient, the skin should be prepped with an approved antiseptic solution. CHG/alcohol preparation, 70% alcohol, Betadine solution or Tincture of Betadine are all acceptable antiseptics. CHG/alcohol preparation should be the prep of choice when available. The site should not be shaved.
2. An occlusive transparent semi permeable membrane dressing is used over all IV insertion sites for daily site inspection. Non-occlusive dressings should not be used regardless of the anticipated time the IV is to be in use.
3. All peripheral intravenous sites are to be changed as clinically indicated from findings of site assessment and/or clinical signs and symptoms of systemic complication. Examples of this are:
    a. Pain and/or tenderness with or without palpation, erythema or blanching, edema, changes in skin temperature (hot or cold), leakage of fluid or purulent drainage from the puncture site, thrombophlebitis, cellulitis, IV related bacteremia or any signs of infection change site immediately.
    ~~b.~~ If IV inserted prior to arrival to the hospital, the site should be changed as soon as possible after admission.
4. Primary and Secondary IV tubings should be changed as follows using aseptic technique and standard precautions. All administration sets shall be of Luer-Lok design.
    a. Administration sets, including add-on devices and tubing, shall be changed immediately when contamination is suspected or when product integrity is compromised.
    b. All administration sets are changed with each site change.
    c. Continuous primary & secondary IV tubing for solutions other than TPN, blood products, lipids, are to be changed no more frequently than every 96 hours (4 days) unless disconnected from patient or otherwise contaminated. **NOTE: Continuous primary & secondary IV tubing are

NOT to be disconnected from the patient for any reason except when discontinuing therapy.

d. Infusions are considered intermittent if they are disconnected from the patient at any time. These intermittent primary and secondary IV sets are to be changed every 24 hours. For systems without a blunt cannula, a compatible sterile covering device should be aseptically attached after each intermittent use. IV tubing not capped, ports not properly cleaned prior to accessing, and intermittent tubing not changed every 24 hours may cause potential contaminants to enter the body.
e. The type of solution administered (i.e.: TPN, Lipids, Blood) should dictate whether the administration set is changed more frequently.
f. Any patient receiving chemotherapy should have IV tubing changed every 24 hours.
g. All primary and secondary tubing should be labeled to communicate: strat time and discard time, fill out appropriate IV set stickers with start and discard date and initial. The sticker should be placed on the IV tubing. Patients with **multiple** IV drip medications; the tubing should be labeled to alert staff. The below sticker should be used on all units excluding the Birth Place.

5. Site selection and Assessment:
    a. Consider non-dominant arm of patient, if possible.
    b. Avoid the ventral surface of the wrist due to pain on insertion and possible nerve damage. Avoid areas of flexion and areas of pain upon palpation.
    c. Avoid veins in an upper extremity on the side of breast surgery with axillary node dissection, lymphedema, or arteriovenous fistula graft. (Consult provider if no other options.)
    d. Avoid veins in the lower extremities, if possible, due to risk of tissue damage, thrombophlebitis, and ulceration.
6. Site assessment should be documented at least every 8 hours. IV sites should be assessed every 4 hours during each 8 hour shift and intervention documented if there are signs and symptoms of infection or other problems noted. The site should be changed patient develops redness, pain, swelling, streak formation, palpable venous cord, induration or drainage at the IV site.
7. Standard precautions should be practiced at all times.

C. Peripheral Venipuncture Access:
When initiating an infusion:
1. Confirm:
    a. Physician's orders
    b. Proper labeling of fluids and additives
    c. Patient identification (using two patient identifiers)
2. Prepare or obtain intravenous solution and equipment.

a. Gather tubing and prescribed type of fluid
b. Perform hand hygiene and apply PPE.
c. Un-package tubing and close roller clamp.
d. Remove protective covering from solution container.
e. Connect tubing to solution container. (Open air vent if glass bottles are used.)
f. Partially fill drip chamber.
g. Uncap tubing, open clamp and flush air from tubing.
h. Close clamp and recap tubing.

3. Explain procedure to patient and/or significant other.
4. Visualize vein using:
    a. Tourniquet or blood pressure cuff *(but not obstructing arterial blood flow)*. Note: Older patients with distended veins may not need a tourniquet.
    b. Blenching and/or unclenching fist
    c. Vein Viewer
    d. Gentle tapping of proximal tissue.
    e. Gentle thumping of small veins.
    f. Massaging extremity with downward strokes.
    g. Lowering extremity below heart level.
    h. Warm Compresses or warmed blanket for 15 minutes.

    Note: Venipunctures should be performed first in the most distal site possible using the upper extremities. Avoid areas of flexion. Veins of the lower extremities should not be used routinely in adults but may be considered when no other access is presently obtainable and there are no contraindications, e.g. type of infusion (vesicants) or circulatory compromise. Veins in the lower extremities should be avoided and should not be used without first consulting with the Administrative Nurse Supervisor. If no other sites are available, the provider may choose to use the jugular veins.
5. Perform hand hygiene.
6. Select the appropriate venipuncture device (*venocath*).
7. Cleanse the access site with an approved antiseptic solution. "Rolling" veins may be penetrated from the top rather than the side or in the angle where two veins join into one.
8. Cannulate the vein and remove the needle from the catheter. Attached the appropriate tubing and flush the vein.
    a. A blood vessel which pulsates or pumps out blood in spurts is an artery. The needle should be withdrawn and pressure applied to stop bleeding.
    b. Nurses will assess the patient's potential intravenous sites and select the most appropriate for peripheral venous access. If the nurse does not feel confident in a successful IV start, another qualified person should assess and attempt the start.
    c. No more than two unsuccessful IV insertion attempts on one patient by one person requires another qualified person the assess and/or attempt the IV insertion.
    d. Once two people have assess/attempted the IV start without success, the Administrative Nursing Supervisor should be notified. At this point, other resources should be considered.

9. Set flow rate as ordered by provider. See IV Pump Policy and Procedure. Tape the IV securely. Armboard may be used if IV positional.
10. Discard used articles in appropriate Bio-Hazard container.

D. Flushing Existing Venous Peripheral Sites:
    1. If the ordered infusion rate is not maintained, but the site shows no sign of infiltration:
        a. Check for obstruction in tubing
        b. Reposition the body part
        c. Resposition venous device, if appropriate

        If above is unsuccessful, after applying PPE, may inject 1 – 3 mL of sterile normal saling into tubing as close as possible to the venous access device while clamping off tubing above. Note: NEVER forcibly flush an IV.

E. Changing Peripheral IV Site Dressing:
    1. Perform dressing changes if the dressing becomes damp, loosened, and/or visibly soiled and at least every 5 days.
    2. If used, gauze-dressing change is performed every 2 days.
    3. Aseptic technique should be used with site care and dressing changes.
    4. Label the dressing with date of change.
        a. Assemble materials needed
        b. Preform hand hygiene
        c. Apply PPE
        d. Remove dressing and discard.
        e. Cleanse skin around insertion site with approved antiseptic. Allow to dry.
        f. Apply new occlusive sterile dressing. Loop tubing and secure with tape.
        g. Document dressing change in EMR.

F. Continuous IV Medication:

    It is not uncommon for a patient to be taken to another department for diagnostic, treatment or surgical purposes. When this occurs, the patient should be transported using an IV pump to maintain fluid volume and/or precise medication dosing. If the patient is transported to an area and precise fluid volume or medication dosage is not required, the IV/medication may be saline-locked for a short period of time (10-20 minutes). If a patient is transported to a department such as radiology for an MRI, in which the IV and/or medication must be precise in volume and/or dosage and IV needs to be interrupted for a short period of time, the following guidelines should be followed:

    The following medications should generally not be interrupted during procedures unless there is a specific order:
        1. Medications that require monitoring (See "Medications Reuiring Cardiac and Special Monitoring" Policy)
        2. Titrated medications (See "Adult Infusions Guidelines")
        3. Heparin, Argatroban and Tirofiban

G. Intermittent IV Medications or IV Fluids:

    (Occurs when any IV tubing is disconnected from the patient for any reason or when a patient is only receiving *intermittent* IV medications or IV fluids). IV fluid containers should be discarded within 24 hours after opening. Flush bags and IV fluids maintained at KVO rate should have an expiration sticker.

NOTE: Critical shortages in intravenous fluids could make it necessary to extend hang times in affected intravenous solutions. Information regarding fluids affected and extension time should be disseminated after approval of appropriate leadership committees (e.g., P&T committee).

H. Flushing Techniques:
   1. Hang a 250 mL bag of sterile Normal Saline to be used as flush bag. Program the pump to infuse at least 25 mL Normal Saline after the IV med has infused. This will create the positive pressure needed and maintain the saline lock.
   2. Use a prefilled sterile preservative free 0.9% sodium chloride (NS) syringe to flush 1-3 mL after intermittent injection of IV meds or fluids, using one steady motion. Do not forcibly flush. If a positive pressure valve connector is not in use, continue to inject the saline, as you clamp the tubing, to remove the syringe. This creates positive pressure and decreases the risk of fibrin sheath formation which may occlude the catheter.

   NOTE:
   - Observe site for signs / symptoms of infiltration / inflammation.
   - Flush the entire system after intermittent injection of IV meds or fluids.
   - The Y-set needs to be changed only if, contaminated or leaking, and with each IV site change.
   - The primary and secondary tubing on intermittent infusions is to be changed EVERY 24 hours

I. Peripheral Venipuncture Discontinuation:
   1. Explain procedure to patient and / or significant other.
   2. Apply PPE.
   3. Stop fluids, remove dressing (maintain aseptic technique during procedure), remove access device, apply light digital pressure until hemostasis is achieved, then apply occlusive dressing to the access site. Assess condition of catheter and site.
   4. Document site discontinued and appearance of site and catheter on Nursing Care Record.
   5. Document amount of fluids infused and amount wasted in EMR.
      NOTE: In the event of extravasation of vesicants, detach all administration sets and aspirate from the catheter hub prior to catheter removal to remove the vesicant medication from the catheter lumen and as much as possible from the subcutaneous tissue.

Documentation:

Electronic Medical Record

- Time of insertion
- Number and locations of attempts
- Type of catheter stabilization and dressing
- Catheter size
- Patient's response to the insertion
- Person who started the IV. Primary and secondary tubing change
- Dressing change
- IV site condition at least once a shift. (Every 2 hours for chemotherapy and pediatric patients.)

- Abnormal site, as well as any action taken

Electronic Medical Record – Intake View

The amount of IV fluids (primary and secondary) infused during the shift should be found in the EMR.

INITIAL EFFECTIVE DATE: 10/2003
DATES REVISIONS EFFECTIVE: 09/2008, 10/2009, 01/2010, 12/2010, 08/2012, 01/2016, 06/2017, 06/2019, 02/2021
DATES REVIEWED (no changes):

Reference: Infusion Therapy Standards of Practice, (2016). Journal of Infusion Nursing. Volume 39, Number 1S. Infusion Nurses Society (INS).