PURPOSE:

- To ensure consistent peripheral vascular access and removal for the purpose of IV delivery.

POLICY:

- All nurses will perform peripheral vascular access and removal per procedure.

PROCEDURE:

- Supplies required:
    - IV start kit - Contents include:
        - Tourniquet
        - Gloves
        - Chlorhexidine prep (preferred) or povidone-iodine prep pad
        - Alcohol prep pad
        - 2x2 sterile gauze
        - Transparent dressing
        - Tape
        - Label
    - Catheter and supplies:
        - Peripheral catheter with safety feature
        - 0.9% sodium chloride: pre-filled syringe or vial
        - Extension set with clave connector
        - Heparin pre-filled syringe* (if provided by Pharmacy)
    - Sharps container
- Check patient ID and verify patient information.
- Check order and match dosing information on medication label.
- Explain procedure and purpose to patient and caregiver.
- Follow appropriate standard precautions.
- Perform hand hygiene prior to the procedure.

- Assemble supplies on a clean, dry surface. Be sure to flush/prime the extension set and microclave.
- Choose a catheter size. Children and the elderly generally use a smaller catheter.
- Locate vein site.
    - Do not use lower extremities unless ordered by physician due to the risk of embolism and thrombophlebitis.
    - Veins that should be considered for cannulation are those found on the dorsal and ventral surfaces of the upper extremities including the metacarpal, cephalic and basilic. Site selection should be initiated in the distal veins and advanced proximally. Avoid areas of flexion.
- Prepare flush per applicable procedure.
- Apply tourniquet if needed
    - Apply tourniquet 3-4 inches above selected vein site.
- Palpate vein and assess vein condition.
    - Never use an area that is bruised or has a hematoma.
- Cleanse vein site with one of the following:
    - One chlorhexidine prep in a back and forth or circular motion. Allow to air dry.
    - One alcohol pad, followed by povidone-iodine in a circular motion. Allow to air dry.
- Perform venipuncture and catheter insertion:
    - Stabilize vein below intended site with non-dominant hand
    - Insert catheter at a 30 ° angle with bevel up.
    - Observe for blood return in flashback chamber
    - Lower angle of catheter insertion and continue to advance catheter
    - Hold the stylet steady and push the catheter off the stylet into the vein until the hub is situated against the skin. Release the tourniquet. Apply direct pressure above the

catheter. Activate the safety device as you remove the stylet from the catheter and discard in the Sharps container.

- Attach the extension set to the catheter hub.
- Attach the 0.9% sodium chloride syringe and aspirate to assure good blood return. Flush until the extension set is clear of blood.
- Stabilize the device with tape and dress the site with transparent dressing
- Cleanse clave connector with alcohol and flush with 0.9% sodium chloride to assure patency.

- After two unsuccessful puncture attempts, RN should notify a Clinical Supervisor to determine if any additional attempts will be permitted.
- Peripheral IV sites must be assessed by an agency RN per Pharmacy guidelines.

  NOTE: *The decision to replace a peripheral catheter should be based on assessment of the patient's condition; access site; skin and vein integrity; length and type of prescribed therapy; venue of care; integrity and patency of VAD; dressing; and stabilization device. Each patient must be evaluated individually with complete documentation of the items noted above*.
- Document procedure and patient's response to procedure.

INSERTION GUIDELINES (W/ PEDIATRIC CONSIDERATIONS):

- Always have adult assistance available.
- For ages 3 and above, prepare the child in simple terms immediately before the procedure to help reduce anxiety.
- For ages under 3 years, prepare the parents for the characteristic response of anticipatory fear noted by widening of the eyes, stiff and tense body reflexes, crying and clinging responses.
- Do not attempt this procedure in the child's bed or crib. Find a flat, clean stable area.
- Choose and have ready all equipment that you will need.
- Do not use chlorhexidine on children under 2 months of age.

- Check for any lab work that needs to be drawn to prevent numerous venipunctures.
- Avoid use of stainless scalp needle for long-term use -- they tend to dislodge more easily in an active child.
- Choose the smallest cannula -- this will cause less trauma and prolong the life of the infusion.
- Introduce yourself and answer any questions prior to the procedure.
- Keep in mind that small veins may collapse or spasm easily when an IV catheter is inserted, thus causing the blood return to stop. If this occurs, wait a few seconds for a blood return before considering this attempt unsuccessful. You may even have to start the IV flow rate of the solution slowly -- be very careful, if you do this, to watch for any signs of infiltration.
- Never use the same piece of tape on the catheter that is used to secure the arm board. A child may be able to work the arm, hand, or foot out of the tape and arm board, thus pulling out the catheter. Always tape the catheter to the skin.
- Recommended Site Selection:
    - Neonate - Infant: Digital, metacarpal cephalic, accessory cephalic, median antebrachial, basilic, frontal, superior temporal, posterior auricular, superior temporal, great saphenous dorsalis pedis, small saphenous antecubital fossa.
    - Toddler - Adolescence: Cephalic, median cubital, accessory cephalic, median antebrachial, basilic, metacarpal.
    - Never place catheter on areas with bruising or hematomas.

PROCEDURE – PIV REMOVAL:

- Check patient ID and verify patient information.
- Verify order removal and/or original date of insertion.
- Perform hand hygiene and don gloves.
- Explain procedure to patient and family.
- Turn off all IV fluids infusing at the site and clamp tubing as necessary.

- Remove IV dressing, stretching the transparent dressing to help release the adhesive.
- Apply gauze to insertion site.
- Withdraw IV catheter in slow, smooth motion, parallel to the skin, while applying pressure with gauze until bleeding stops and hemostasis is achieved (minimum of 30 seconds).
    - Monitor for bleeding in patients with bleeding disorder.
- Inspect catheter condition and verify it is intact.
- Tape gauze in place with tape or apply Band-Aid if needed.
- Document and follow up with MD if signs of infection are present.

Reference: PDN Policy 13201