CLINICAL MANUAL
Policy/Protocol

TITLE:	Delegated Function for the Insertion of Peripherally Inserted Central Catheter (PICC) by Registered Nurses (RNs) for Patients in the Children's Health and Women's and Newborn Health Program	**NUMBER:**	1523
Sponsor**:**	Manager of the PICC Team Chief of General Surgery Department	Page:	1 of 12
Approved by:	Policy and Practice Committee	Approval Date: Effective Date:	Feb 9, 2021 Feb 23, 2021
Applies To:	PICC Team Registered Nurses, Pediatric General Surgeons, Patients requiring PICC insertion at the IWK, Medical Team requesting the PICC Insertion.		

NOTE:THIS POLICY DOES NOT APPLY TO NEONATES IN NICU

PREAMBLE

PICC insertion by Registered Nurses is a delegated function (DF) at IWK Health. This policy will define and guide the implementation of the delegated function (DF), PICC Insertion by the RN as delegated by the surgeon.

POLICY STATEMENTS

1. PICC Insertion by Registered Nurse (RN) is a delegated function from the on-call general surgeon to only those nurses who have successfully completed the education process described in policy statement #2.

2. The IWK requires the delegate nurse performing this DF to successfully obtain certification which includes the following components:
    - Completion of the theory and competency components of a comprehensive PICC Education Program. The education program is stored on the H: drive for the PICC team.
    - Clear and concise understanding of the information contained within this delegated function policy.
    - Demonstration of technical competence and proficiency in Central Venous Access Device (CVAD) care and peripheral intravenous insertions (PIV).
    - Demonstration of competency for initial certification and ongoing recertification **must** occur under the supervision of the general surgeon. Supervision of a minimum of three successful PICC insertions is required.

3. Clinical conditions/circumstances that must exist for the RN **to implement** this DF:
    - All patients in the Children's and Women's Health Programs who require central venous access as determined by the admitting team.
    - Negative 48 hour blood cultures if ordered prior to consult.
    - Assistant available for the procedure. This can be a Care Team Assistant (CTA), Licensed Practical Nurse (LPN), or RN.

   If the following Contradictions exists the RN **does not implement** the delegated function:
    - Positive blood culture or pending cultures.
    - No viable veins following ultrasound assessment.
    - Inability to obtain consent for the procedure.

Consultation is required from the PICC consulting team for further assessment and direction for any patient who is exempt from the DF.

4. The Patient must be assessed by the RN based on psychosocial assessment, and informed by patient and family, determine the need for psychosocial preparation, procedural support such as distraction, pain management, as well as the need for an assistant to support the safe completion of the procedure while minimizing the risk of pain and distress. Consults to Child Life and/or Anesthesia may be required.

5. The delegating on-call general surgeon must be responsible and accountable for:
    a) The child's medical care and the decision as to when the patient is to have the PICC inserted by the RN
    b) Communicating to and directing the delegate RN to insert PICC line
    c) Ensuring the attending on-call general surgeon **is** available in the building for consultation during the PICC insertion procedure.

d) The delegating on-call general surgeon will be notified immediately and will follow up in case of emergency, or if the patient does not meet the PICC insertion criteria as deemed by the RN's assessment.

6. The delegate RN must be responsible and accountable for:
   a) Self-assessing their competency.
   b) Notifying the surgeon when a RN receives a notification of a PICC insertion request from a team.
   c) Inserting PICC line as directed by delegating on-call general surgeon.
   d) Notifying the delegating surgeon for consultation during the PICC insertion procedure and notifying the attending surgeon immediately in case of an emergency or if the patient does not meet the criteria for the insertion of the line.

GUIDING PRINCIPLES

- To provide best care and minimize pain by inserting the most appropriate vascular access device in a timely fashion.
- To provide safe, ethical and competent care to patients and families requiring PICCs.
- The Comfort Promise

PROCEDURE

Assessment

1. The requesting clinical care team will complete a consultation and attach to patients chart. The RN PICC inserter is paged by the clinical care team and notified of the consult.

2. The RN PICC inserter will notify the attending on-call general surgeon of the consult, and the surgeon will delegate the assessment of the patient to the RN PICC Inserter.

3. The RN PICC inserter will:
   - Review the patient's health record.
   - Visit and assess patient/family
     - PICC required?
     - Patient/Family consent?
   - Determine vein availability and suitability (**Notify requesting team if unable to locate a suitable vein to discuss findings and determine available options)**

- Explain procedure to patient/family and obtain informed written consent (Place consent on patient's health record.
- Document on consult form (form # IWKCOREA) the specific information provided to patient, parents, guardians and the planned care. Consult will be placed on the patient's permanent health record.

4. Determine need for extra nursing support and/or sedation in collaboration with the patient/family. Assess the need for sedation and notify Anesthesia/Surgery if applicable.
5. Consult Child Life Specialist as necessary to prepare child for procedure and to assess if additional support or distraction is required for procedure. If Child Life Support is needed, coordinate insertion time with Child Life Specialist.
6. Schedule time for PICC insertion.
7. If sedation is required, contact the attending team to discuss most appropriate agent and/or need for anesthesia. (Policy 50002 - Sedation Outside of the Pediatric Operating Room, excluding PICU, NICU and the Emergency Department)
8. If anesthesia is required, the patient will be added to the procedure room waitlist. RN PICC inserter will be notified when patient is ready to have procedure done with anesthesia assistance.

Preparation

1. Hand hygiene as per Infection Prevention and Control Services (IPCS) (Policy #205.2 Hand Hygiene: Hand Hygiene) - apply appropriate personal protective equipment (PPE)
2. Confirm the need for additional nursing/family/child life specialist support (for example, to provide distraction, emotional support, to assist with the procedure)
3. Measure from proposed site of skin entry to junction of superior vena cava. **Always measure twice**. Make note for reference during the insertion.
   Basilic/Cephalic**:**
   - Right side: Measure from insertion site to axilla, across to sternal notch, down to third intercostal space
   - Left side: Measure from insertion site to axilla, over to mid clavicle, and angle to mid sternum.
4. Equipment:
   - PICC kit of appropriate size and number of lumens
   - Sterile tray
   - Needleless connector(s)
   - Blunt Needle
   - 3 mL Syringe
   - 27g Safety Subcutaneous Needle

- Sterile Probe Cover & Gel
- Transparent Dressing (of appropriate size)
- 2% Chlorhexidine & 70% Alcohol Swab Sticks tinted (2)
- 2% Chlorhexidine & 70% Alcohol Swab Sticks clear (2)
- NaCl 0.9% sterile prefilled syringes
- Vial of 1% Buffered Lidocaine
- 2% Chlorhexidine & 70% Alcohol swab
- Sterile towels (4)
- Sterile tourniquet
- Sterile Gown
- Sterile Gloves (appropriate size)
- OR Buffant Cap
- Portable Ultrasound Machine

PICC Insertion:

1. Position patient to the edge of the bed/stretcher to facilitate access to the arm. Place arm out at 90 degrees angle to the body onto the arm rest.
2. Apply tourniquet to arm and apply gel to ultrasound probe and to potential site. Assess patient's vein to determine access site.
3. Once the appropriate vein is identified, mark the site with a skin marker and then use a tape measure to measure the potential insertion length of the PICC. Remove the tourniquet.
4. Open up sterile PICC tray on table and add all other necessary equipment to sterile tray.
5. Wash hands and apply sterile gown and sterile gloves.
6. Have assistant open PICC line package. Take out PICC and add to sterile tray.
7. Have assistant open each package of 2% Chlorhexidine & 70% Alcohol swab sticks. Using a sterile gauze, take each swab stick and place in one of the PICC tray compartments.
8. Attach sterile saline syringe to PICC and flush catheter. Withdraw stylet the distance the catheter needs to be trimmed and cut with sterile scissors.
9. Assistant will cleanse top of 1% Buffered Lidocaine vial (prepared by pharmacy) with 2% Chlorhexidine & 70% Alcohol swab.
10. Verify the 1% Buffered Lidocaine product and expiry date prior to drawing up. With the assistant holding the buffered lidocaine vial, draw up 1.5 to 2 mL of the 1% buffered lidocaine using the 3 mL syringe and blunt needle.
11. Remove blunt needle and apply 27g subcutaneous needle. Prime needle. Place needle onto sterile tray.

12. Have assistant hold up patient's arm. Cleanse underside of the patient's arm from top of arm to mid forearm with a 2% Chlorhexidine & 70% Alcohol swab stick x 2. Allow arm to dry.
13. Place down sterile field. Place tourniquet onto drape close to where the top of the arm will be. Have assistant lower the patient's arm onto sterile towel.
14. Cleanse the patient's arm from the top of the arm to mid arm using the rest of the 2% Chlorhexidine & 70% Alcohol swab for 30 seconds and allow to air dry for 30 seconds.
15. Place sterile towel over arm with the site for the PICC insertion visible in the opening of the drape.
16. Open the probe cover and have assistant place the ultrasound probe on sticky part of cover. Holding onto the probe head, have assistant grab the end of the probe cover and pull it over the probe tubing.
17. Flatten probe cover over probe tip ensuring no air bubbles are present. Secure the cover with the supplied tape.
18. Clamp the probe cover to the fenestrated drape with the Kelly Clamp to prevent movement of the probe on the sterile field.
19. Apply sterile tourniquet to upper part of the arm.
20. Apply sterile gel to tip of ultrasound probe or on skin over marked site and locate vein to be accessed. The vein is visualized in cross sectional basis, appearing as a circle.
21. Apply pressure to the tissue under the transducer to see if the potential vein compresses. The vein should compress easily. Arteries will not compress and will continue to demonstrate pulsatility. A thrombosed vein may appear more opaque and will neither compress nor pulsate.
22. Using the prepared buffered lidocaine syringe, insert the needle under the skin and inject the medication to create a wheel. Allow 1 minute to allow the lidocaine to anesthetize the site. (Refer to Policy 30.52: Care Directive: Administration of Intra-dermal Buffered 1% Lidocaine for Peripherally Inserted Central Catheter (PICC) Insertion in the Women's and Children's Health Programs)

23. Insert the access needle into the skin at the centre of the probe at approximately a 15-30 degree angle from the probe. Observe the ultrasound screen and continue to insert the needle until the vein is accessed and a good blood return is seen from the needle hub.

24. Insert the Spring-Wire guide into the needle, once the wire begins to enter the vein release the probe. Lower the needle and gently insert the wire into the vein approximately 15-20 cm. The wire should easily pass into the vein. Insertion of the wire 15-20 com into the vein will ensure that the wire is secure and not easily dislodged with subsequent equipment changes.

> **ALERT:** Never forcefully advance the wire as this may cause intima vein damage or tangling of the wire. Maintain a firm grip on the wire at all times making sure the wire is always in sight.

25. Remove the needle over the wire while applying pressure to the insertion site with gauze to prevent accidental removal of the wire.
26. Thread the tissue dilator with peel-away sheath onto the wire and through the subcutaneous tissue. Bend the wire at the end of the sheath. Bending of the wire will prevent it from advancing further into the vein as the sheath is introduced.
27. Perform a dermatotomy with the scalpel provided. Using a slight twisting motion with the sheath tissue dilator assembly, insert the sheath to a depth sufficient to enter the vessel. The sheath needs to be inserted about half way in to ensure that it is well into the vein.
28. Remove tourniquet.
29. While stabilizing the peel-away sheath with one hand, remove the inner dilator and wire as a unit, leaving the peel-away sheath in the vein.
30. Insert PICC into the sheath and advance up the vein.
31. Gently advance catheter a few cm at a time to premeasured length. **Hint**: Each advancement should take about 30-60 seconds.
32. When inserting catheter in an arm, turn patient's head towards insertion site. Place chin on shoulder to prevent catheter from traveling up the jugular vein.
33. If having difficulty in advancing catheter; try the following options.

    - Gently massage vein in direction of blood flow proximal to insertion site
    - Gently flush catheter intermittently with 0.5 to 1 mL of 0.9% NaCl and/or
    - Reposition head/arm

34. Apply ultrasound probe to neck on the PICC insertion side to view the internal jugular vein. Visualize the vein for the presence of the PICC. Flush 0.9% NaCl into the PICC to see if it can be visualized entering the internal jugular vein or if the patient hears the saline being injected. **If it is assessed that the PICC has gone up the internal jugular vein attempt to reposition.**
35. Pull out the peel-away sheath gently from vein and peel off around the PICC.
36. Insert the remainder of the PICC to the desired length into the arm.
37. Check for blood return from PICC using pre-filled 0.9% NaCl syringe.
38. Once PICC tip placement is confirmed, remove guide wire from PICC. Use small movements keeping it parallel to arm. Attach primed needleless connector(s).
39. Using gauze pad, apply gently pressure to insertion site to stop any bleeding. Clean with 0.9% NaCl as needed.
40. Apply securement device to skin and secure PICC in place.

Post- Procedure:

1. Apply appropriate dressing; usually a transparent or transparent/gauze dressing is used.
2. Heparin lock in pediatric patients or saline lock in adults.
3. Document on Central Venous Access Device Insertion Record noting:

    - size of catheter,
    - number of lumens,
    - insertion vein/side and
    - length of catheter
    - number of skin punctures

4. Order chest X-ray as per IWK policy 739 (Care Directive: Ordering of Chest X-rays for Verification of Tip Locatin Following Peripherally Inserted Central Catheter (PICC) Insertion).
5. Verify tip placement in collaboration with the physician/nurse practitioner. (**If tip placement is incorrect, reposition and re-x-ray). RN PICC inserter notifies attending team of correct placement.**
6. The attending team will write the ORDER stating that the PICC may be accessed for use. The RN PICC Inserter will document tip placement on CVAD Insertion Record (Central Venous Access Device Insertion Record Form ID IWKCEVE).

REFERENCES

Children's Minnesota. (n.d.). *Pain Program: Children's Comfort Promise*. Retrieved from https://www.childrensmn.org/services/care-specialties-departments/pain-program/childrens-comfort-promise/

Peripherally inserted central catheter (PICC) line (2019). Mayo Clinic https://www.mayoclinic.org/tests-procedures/picc-line/about/pac-20468748

Legislative Acts/References

Email correspondence with the Nova Scotia College of Nursing: Delegated Functions April17, 2020

RELATED DOCUMENTS

Policies

- IWK Infection Prevention and Control Services (IPCS) Policy #205.2 - Hand Hygiene
- Clinical Policy #735, CVAD: Care & Maintenance
- Administrative policy #336: Optimizing and Expanding the Nursing Scope of Practice
- IWK Health Centre clinical policy #740 – CVAD Complications and their Management

- IWK Health Centre policy #739 - Care Directive: Ordering of Chest X-rays for Verification of Tip Location Following Peripherally Inserted Central Catheter (PICC) Insertion
- Medication Management Policy # 30.54: Care Directive; Administration of Intra-dermal Buffered 1% Lidocaine for Peripherally Inserted Central Catheter (PICC) Insertion in the Women's & Children's Health Programs
- Sedation outside the pediatric operating room, excluding NICU, PICU and emergency Department.-policy #50002

Forms

- Consultation Report (Form ID IWKCOREA)
- Consent form
- Central Venous Access Device (CVAD) Insertion Record (Form ID IWKCEVE)

Appendices

- Appendix -Definitions

Appendix – Definitions

Delegated Function (DF) The process of transferring a specific intervention (task, procedure, treatment or action within explicit and limited situations having clearly defined limits) that falls within the scope of practice of one healthcare profession (delegator), however, in the interest of client care, has been approved to be performed by a member(s) of another healthcare profession (delegatee) for whom the intervention is outside their scope of practice, but who has the required competence (certification/recertification) (CRNNS, 2012).

A regulated health professional who has the legislative authority and the competence to perform a specific intervention can delegate it to others, as the *delegator*. Responsibility for delegation is shared amongst the employer, the regulated healthcare professional who determined the most appropriate healthcare provider with whom to delegate the intervention to, and the individual, in this case, the RN who accepted the performance of the delegation. The delegator is responsible and accountable for the decision to delegate the intervention as well as for overall client outcomes. The RN, as the delegatee, is responsible and accountable for the performance of the outcome of the intervention (CRNNS, 2012).

An email from the Nova Scotia College of Nursing (April 17th, 2020) states the criteria required for a delegated function are:

- Name and description of the intervention
- Assessment process to be used by the delegatee in making the decision as to whether to implement the DF (i.e., specific clinical conditions and/or other circumstances that must exist before the DF can be implemented)
- Contraindications for implementing the DF
- Resources required
- Monitoring parameters and reference to appropriate emergency care measures
- Education module, which may be developed by the facility ensuring best practice or utilize a well-established and accepted external education program
- Annual certification/re-certification process.
- Accountabilities of the delegator, delegatee and the employer

The Comfort Promise- is a commitment to do everything possible to prevent and treat pain. The IWK's implementation of The Comfort Promise promotes the use of four strategies: use of topical anesthetics, sucrose or breastfeeding for infants 0-12 months, comfort positioning and/or developmentally appropriate distraction.

Peripherally Inserted Central Catheter (PICC) is defined as a catheter inserted via a peripheral vein with the tip residing in the vena cava. (RNAO, 2008).

Modified Seldinger Technique (MST) is a method of insertion where the desired vessel is punctured with a small, sharp, hollow needle called a micro introducer, with ultrasound guidance if necessary. A guidewire is then advanced through the lumen of the needle, and the needle is withdrawn. An introducer/dilator device is inserted over the guidewire and then

the guidewire and dilator are removed. The catheter is advanced though the introducer. Once the catheter has been advanced the correct distance the introducer is pulled out of the skin, around the catheter, and split according to the manufacturer's usage directions.

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District Health Authority/IWK Policies Being Replaced

Version History

(To Be Completed by the Policy Office)

Major Revisions (e.g. Standard 4 year review)	Minor Revisions (e.g. spelling correction, wording changes, etc.)
2021	