PICC and Midline Catheters
Infusion RN’s

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Intravenous Decision Tree

Does patient need IV access?

- Yes
  - Is therapy appropriate for peripheral infusion?
    - Yes
      - Does patient have history of difficult IV start and/or does therapy consist of multiple blood draws?
        - Yes
          - Obtain MD order for CIS consult for midline/PICC placement.
        - No
          - Is therapy planned for greater than 3 days?
            - Yes
              - Obtain MD order for CIS consult for midline.
            - No
              - Place peripheral IV.
    - No
      - Obtain MD order for CIS consult for central line PICC vs. Chest.

- No
  - No need for IV access.
What is a PICC

- Peripherally Inserted Central Catheter
- Indications for PICC
- TPN or other solutions requiring central placement such as certain chemotherapies.
- Therapies that over time can cause chemical phlebitis such as Vancomycin and Nafcillin
- Therapies lasting longer than 4 weeks
- Can be used for blood draws
What is a Midline

- Peripherally inserted catheter that tip is not centrally placed, such as a Groshong
- May remain in for 30 days
- Determine by measurement of line or CXR
- Indications for use: poor venous access requiring multiple IV site changes and therapies lasting less than 30 days
- May use for lab draws
What is an Implantable Port

• A port (often referred to by brand names such as MediPort) is a central venous line that does not have an external connector; instead, it has a small reservoir implanted under the skin.

• Medication is administered intermittently by placing a small needle through the skin into the reservoir.

• Ports are used for patients needing long-term intermittent treatment.
PICC and Midline Flushing

- Sodium Chloride - 5cc before and after routine IV/medications
- 10cc NS before and after blood draws (PICC only - 10cc Sodium Chloride b/a TPN)
- 20cc NS after blood product administration
- Heparin 100 units/cc 2.5cc final flush in absence of continuous infusion and daily when line not in use.
Sterile Dressing Change

- Change dressing 24 hours post insertion
- Every 7 days
- Hibiclens followed by Chloraprep
- Biopatch – an antimicrobial dressing
- Steri-strips to secure site
- Clear bio-occlusive dressing
- Change cap every 7 days or whenever removed
Hibiclens scrub
Chloraprep swab to remove soap
Biopatch around line at insertion site
Biopatch over line at insertion site
Steristrips from insertion site to hub
Bio-occlusive dressing to cover
Secured with K-lok over extension tubing
PICC Secured with Statlock
Line Repair

• Clean site with Hibiclens and Chloraprep
• Clean segment of line to be trimmed
• Trim line above damaged portion
• Slide sleeve over line
• Grasp emerging line with sterile gloved fingers
• Insert stylet tip fully into line and slide sleeve up to connect firmly
Line repair continued

- Single lumen Groshong lines will click when securely fastened.
- Dual lumen Groshong lines will have white stylet to remove after repair complete.
- After repair complete tug gently to ensure secure connection
- Apply sterile dressing and flush line
Hibiclens scrub (be sure to clean area of line to be cut)
Chloraprep swab (be sure to prep area of line to be cut)
Cut line above damaged portion
Slide sleeve over cut line
Grasp emerging end to prevent internal migration
Insert stylet into line up to hub
Stylet fully inserted up to hub
Slide sleeve up; align grooves with the wings and click together
Add extension and cap to repaired PICC; flush and dress
Lines that cannot be repaired

• Dual lumen lines that are broken above the white y
• Lines that are clear and have clamps attached to the line.
De-clotting Line

• Mix solution according to pharmacy directions
• Withdraw appropriate volume of solution into syringe
• Remove injection cap, attach syringe with de-clotting agent to hub of occluded lumen
• Inject de-clotting solution. (this may or may not infuse easily)
De-clotting line continued

• If it is difficult to instill de-clotting use a gentle push/pull action of the syringe to allow gradual mixing. TO PREVENT RUPTURE DO NOT FORCE.

• Remove or tape syringe down to arm and let de-clotting solution work for 30-60 minutes
De-clotting PICC continued

• Attempt to aspirated after 30-60 minutes
• If blood cannot be aspirated, try to aspirate again in 15 minutes.
• If blood aspiration success
• Aspirate 5cc of blood and discard
• Irrigate catheter with 10cc Sodium Chloride followed by 2.5cc Heparin 100units/cc
Mix medication according to directions and draw into syringe
Attach syringe to hub and instill medication
De-clotting line waiting 30-60 min
Attempt to aspirate and withdraw 4-5cc of blood to waste
Flush line with NS 10cc followed by Heparin 100u/cc 2.5cc
Migration

• Movement of catheter from its original placement.

• To prevent further migration, line should be adequately secured with securing device and occlusive dressing.

• Repairable lines should be trimmed of excessive exterior length and repaired.

• Assessment needs to be completed to determine if placement remains adequate for current IV therapy.
PICC migrated outward several inches
Measure migrated line
Phlebitis

- Phlebitis shall be defined as an inflammation of the vein and is a potential complication
- It will be rated according to a scale of 0 through +4
Phlebitis Scale

0

• No clinical symptoms
Phlebitis Scale

1+

- Erythema with or without pain
- Edema may or may not be present.
- No streak formation
- No palpable venous cord
- Moist heat may be applied if there is pain
- Patient may be asked to use the arm
Phlebitis Scale

2+

- Erythema with or without pain
- Edema may or may not be present
- Streak formation
- No palpable venous cord
- Low heat for 2-3 days, elevate arm, mild exercise and follow up daily to see if decrease in symptoms
Phlebitis Scale
3+

- Erythema with or without pain.
- Edema may or may not be present.
- Streak formation.
- Palpable cord.
- Daily visual monitoring for any decrease in symptoms
Phlebitis Scale
Grade 4

- Erythema with or without pain
- Edema may or may not be present
- Streak formation
- Palpable venous cord greater than 1 inch in length
- Purulent drainage
- Culture site, cleanse site, notify M.D., blood cultures, may remove catheter and culture tip
PICC line removal

- Gather supplies
- Remove dressing
- Gently retract line from arm
- Apply pressure to site
- Cover with gauze and apply occlusive dressing
Removing PICC line
Gently pull line out
Apply pressure with gauze when line removed
PICC line removed, dressing applied
Final measurement of removed PICC line
Questions

- RN is available on call 24 hours /day
- For questions call 383-3099

- Adapted with permission from the Carle Infusion Department