

Nursing
Management of
Venous Access
Devices:
Peripheral IV lines

Mimi Bartholomay, RN, MSN, AOCN

Denise Dreher, RN, CRNI, VA-BC

Sally Geary, RN, MS, CCNS

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Peripheral IV (PIV)

❖ Benefits:

- Short-term access, up to 96 hours (exception is pediatrics: no routine replacement of catheter)
- Extended-dwell PIV catheters are approved for up to 29 days
- Simple transparent semi-permeable membrane dressing (TSM)

❖ Considerations:

- NO central concentrations
- NOT in an arm status post axillary lymph node dissection (LND)
- NOT in an arm with an arterio-venous fistula (AVF), new fracture, thrombus, hemiparesis, infection/cellulitis, arm edema/lymphedema



Peripheral Catheters

❖ Peripheral IV (PIV)

- Catheter is less than 3" (7.5cm) in length
- "Angio"
- Saf-t-intima (winged butterfly)
- Insyte Autoguard (straight)
- B Braun
- Nexiva (CT scan power-injector tolerant)
- Extended-dwell



PIV - It's All in the Details...

❖ Site selection/Considerations:

- Avoid areas of flexion
- In general, start distally in hand and progress proximally to preserve peripheral access. Some therapies, such as vesicants, should not be infused through a hand, wrist, or antecubital vein if at all possible
- Consider individual situations i.e. arm restraints, one arm restrictions, crutches, wheelchairs

❖ Type and gauge of catheter:

- Use appropriate gauge catheter to meet infusion needs, prevent vessel damage, and complications



UNIVERSAL COLOR-CODED PIV GAUGE SIZES



24

❖ **YELLOW** =24 G Used for very fragile, small veins. Not recommended for chemo infusions due to vessel fragility.

22

❖ **BLUE** =22G Used for most chemo infusions; patients with small veins; patients NOT expected to receive blood transfusions

20

❖ **PINK** = 20G “Multi-purpose gauge”. Used for meds, hydration, blood transfusions, routine therapies

18

❖ **GREEN** =18G Used for large-volume fluid infusions; multiple transfusions

16

❖ **GRAY** =16 G Used during major surgeries; patients requiring multiple large-volume infusions; and very unstable patients

14

❖ **ORANGE** =14G Used in massive trauma situations



PIV Care and Maintenance

- ❖ Assess, at a minimum, every shift (adults) and every hour (pedi), and document assessment on flowsheet
- ❖ Flushing:
 - Minimum 2ml of 0.9% preservative-free saline using a pulsatile, push-pause method
 - Increase flush volume to include add-on devices (filters or extensions)
 - NO heparin needed for PIVs
 - Flush at least every 12 hours when not in use
- ❖ Dressing change PRN if no longer intact
- ❖ Securing:
 - DO NOT obscure insertion site
 - Tape device flush with skin
 - Avoid taping connections
 - Avoid kinks in extension tubing
- ❖ Monitor peripheral IV insertion date – place new PIV when outdated (96 hours)
- ❖ NO blood pressure or blood draws on that extremity, when possible

IV Assessment

❖ Nursing assessment

- Patient comments/complaints
- What is insertion date?
- Any swelling/edema noted...
 - *Does transparent dressing look taut?*
 - *Is ID bracelet tight?*
 - *Is skin blanched or cool to touch?*
 - *Is there a positive blood return?*
 - *Does arm appear to be the same size as the other arm?*
- Any redness (erythema) at insertion site?
- Leaking or bloody insertion sites?
- Any resistance to flushing?
- Document assessment per policy

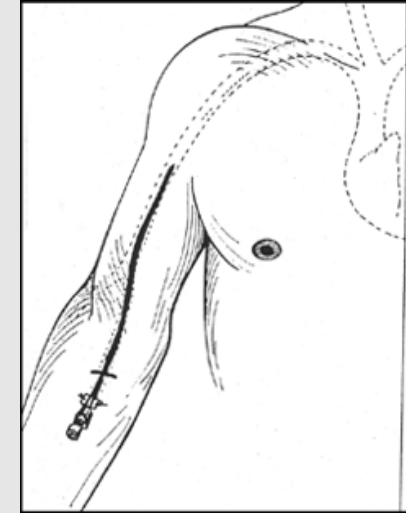


Vancomycin infiltration

Retrieved from www.iv-therapy.net
10/6/09

Midlines

- ❖ Length: 3" (7.5cm) to 8" (20cm)
- ❖ Short-term peripheral access with two to four week dwell time
- ❖ Benefits:
 - No CXR needed for catheter tip verification. Tip dwells in arm distal to shoulder
 - Same insertion procedure as a PICC
- ❖ Considerations:
 - NOT used for continuous or long-term vesicants
 - NO dextrose concentrations > 10%
 - NO central concentrations
 - NO blood pressure on that extremity
 - NO dialysis fistula in same arm
 - NO axillary lymph node dissection in same arm
- ❖ Powerglide and Power Wand are extended-dwell midlines



Retrieved from
<http://www.rnao.org/pda/vad/overview.html>
7/14/10



Retrieved from
<http://www.bardaccess.com/>
with permission 10/6/09

Midline Flushing

❖ Adults:

- Flush using 10-20ml of 0.9% preservative-free saline after infusion
- Flush using 20-30ml of 0.9% preservative-free saline following a blood transfusion
- Flush every 12 hours when used for intermittent infusions

❖ Adolescents:

- Heparin flush with 3ml (10units/ml)= 30 units after infusion
- Flush every 12 hours when used for intermittent infusions

❖ Pediatrics:

- 2Fr catheter: 1ml heparin (10 units/ml)= 10 units heparin after infusion
 - Flush every 6 hours when used intermittently
- 2.6Fr catheter or larger: 2-3ml heparin (10 units/ml)= 20-30 units heparin after infusion
 - Flush every 12 hours when used intermittently

Midline Care and Maintenance

- ❖ Blood drawing NOT recommended
- ❖ No t-PA use for catheter occlusions (peripheral catheter)
- ❖ Dressing protocol: same as PICC
- ❖ Maximum infusion rate: as patient condition warrants
- ❖ Extended-dwell midlines: Power
- ❖ Consider removal of midline when no longer needed



Short Jugular lines

❖ Benefits :

- Short term peripheral access
- No CXR needed for catheter placement

❖ Considerations:

- NOT used for continuous vesicants
- NO dextrose concentrations >10%
- NO central concentrations





Short Jugular Lines: Care and Maintenance

❖ Flushing:

- Minimum 2ml 0.9% preservative-free saline
- No heparin flush (it is a peripheral line)

❖ Dressing protocol:

- Simple transparent dressing

❖ Complications:

- Location-related
- Needs stabilization

❖ Removal:

- May be done by RN

Please note...

All information provided is subject to review and revision.
Please continue to refer to MGH Policies and Procedures in
Ellucid as your primary resource



References:

- Original power point 2011: Bartholomay, Dreher, Theresa Evans, Susan Finn, Deb Guthrie, Hannah Lyons, Janet Mulligan, Carol Tyksienski
- MGH Ellucid
- Infusion Nurses' Society, Infusion Nursing Standards of Practice, 2016

