

# Sample Midline Catheter Policy and Procedure

## **GENERAL CONSIDERATIONS**

Definition: CDC defines a midline catheter as a peripheral IV catheter, as distinct from a central venous catheter, measuring between 3 and 8 inches in length.

Insertion Site: The most favorable site for midline insertion is at the mid-biceps level of the upper arm (i.e., the middle 1/3<sup>rd</sup>) in either the basilic or cephalic vein. The brachial vein may be used if deemed appropriate by the clinician.

Catheter Tip Location: The tip of a midline catheter shall reside distal to the axillary vein. Using external anatomic landmarks, the catheter tip should reside below the shoulder, distal to the deltoid muscle.

Indications for Midline Use: In conformity with new CDC Guidelines, in the absence of a clear indication for a central line, a midline catheter should be placed whenever IV therapy is likely to exceed 6 days.

Additionally, since the published average dwell time for short peripheral IVs is 44hrs, a midline should be placed in all “hard stick IVs” (i.e., those patients for whom ultrasound IV placement has been requested) whose IV therapy is likely to exceed 44 hours, and in patients anticipated to have frequent blood draws.

Contraindications to Midline Use: A midline catheter should not be used for the following indications

- Continuous vesicant therapy
- Total parenteral nutrition
- Solutions greater than 900 mOsm/L
- All infusates requiring central venous access

For the above administrations, a central venous catheter should be used, PICC or CVC.

*IMPORTANT: All midlines are cleared by FDA for “less than 30 day” usage; however, the CDC guidelines allow for dwell times in excess of 30 days, provided there is no evidence of infection or other complication.*

**NOTE:** Midline shall be placed in conformity with all institutional policies and procedures with respect to informed consent, ordering authority and additional contraindications and restrictions.

## **MIDLINE INSERTION CONSIDERATIONS**

Sterile technique and maximum barrier protection shall be used during midline insertion.

Lidocaine 1% without epinephrine (preferably buffered) shall be used during midline insertion.

Skin preparation shall be done with 2% chlorhexidine scrub. Allow to dry thoroughly.

Insert midline catheter according to manufacturer's directions for use.

An X-ray is not required for confirmation of midline tip placement.

Use BioPatch® or equivalent around insertion site. Cover using acceptable sterile dressing.

Midline catheter shall be secured using a mechanical catheter stabilization device.

Be certain all connections are tight and free from leakage.

Unless continuously infusing, use institutionally approved end-cap (i.e., mechanical valve).

## **MIDLINE CARE & MAINTENANCE**

Flushing: Always flush using positive pressure, push/pause technique. Flush midline with 10-20 mL of preservative-free normal saline (USP) at least every 8-12 hrs, and immediately after administration of medications, peripheral parenteral nutrition or blood products (20mL flush after blood infusion).

Locking: Midline catheters, unless continuously infusing, should be locked using preservative-free normal saline, unless otherwise specified by order of a physician. Always clamp tubing after instilling locking solution.

Dressing Changes: Replace midline dressings in accordance with hospital/institutional policy and procedure for central venous catheter dressing changes.

Discontinuation: Discontinue midline using aseptic technique. Upon discontinuation, hold pressure against the site until hemostasis is assured. Then cover site immediately with sterile petroleum based ointment and sterile dressing.

## **BLOOD DRAWING THROUGH A MIDLINE CATHETER**

Diagnostic blood draws may be performed through a midline catheter as follows:

- Position arm in gravity dependent position with palm up. Allow 30-60 seconds for venous pooling.
- Access midline catheter with 10mL syringe, using aseptic technique. If accessing mechanical valve, be certain to have scrubbed valve for 15 seconds with alcohol prior to accessing.
- Flush initially with 10mL preservative-free normal saline.
- Draw back syringe gently.
- If no blood returns, repeat procedure using light tourniquet.
- If no blood returns, remove valve (with clamp in place), access extension set directly and attempt to aspirate.
- When blood is aspirated, discard initial 3-5mL, then withdraw amount required for specimen collection.

- Upon completion, flush with 20mL preservative-free normal saline.
- TIPS: gentle traction on the catheter hub or on the securement device may draw catheter tip away from vessel wall and allow for free flow.

## **SPECIAL CONSIDERATIONS**

Midline catheter shall be placed and removed only by a qualified practitioner, certified (when appropriate) for IV placement using ultrasound guidance.

Upon completion of midline insertion, measure and record circumference of arm in area where midline tip resides. Record findings.

No BP or venipunctures shall be done on the extremity accessed for midline placement.

Use of syringes smaller than 10mL is prohibited.

## **DISCLAIMER:**

This is a sample midline policy and procedure. It is in no way intended to be complete and all-encompassing. Each institution should revise, alter and edit as deemed appropriate by their own judgment and clinical expertise. For full POWERWAND® directions, warning and precautions, consult Directions for Use included in POWERWAND® packaging. Directions for Use included in POWERWAND® packaging.