

Policy and Procedure for Clearing Occluded PICC Line and Midline Catheters

Purpose:

To restore patency to a catheter with a blood or chemical occlusion

Supplies:

- (1) Sterile injection cap or needleless system
- (1) Thrombolytic agent
- (3) 10 cc syringe with attached 1 in. needle or needleless adapter
- (1) 10 cc sterile normal saline filled syringe with attached 1 in needle or needleless adapter
- Isopropyl alcohol wipes
- (1) Stopcock – 3 way

Procedure:

1. Notify physician immediately of suspected catheter occlusion and type of occlusion (i.e. blood, chemical precipitate)
2. Obtain treatment orders for thrombolytic agent. Cautions contained in medication package insert should be observed
3. Review patient chart for allergies, medical history & condition, lab coagulation studies, and contraindications to procedure
4. Explain procedure to patient and obtain patient informed consent
5. Wash hands and glove and any personal protective equipment needed
6. Use aseptic technique and observe blood and body fluid precautions and universal precautions
7. Remove injection cap, attach an empty 10-cc syringe and attempt to aspirate. If aspiration is successful withdraw clots and flush. If aspiration is unsuccessful proceed forward
8. Document procedure in patients medical record upon completion of one of the two methods

Two Methods available: Syringe and Stopcock Method

Syringe Method Dec clotting	Stopcock Method Dec clotting
Draw up thrombolytic agent into a 10 cc syringe to equal the internal volume of the catheter (volume may be reduced if catheter length has been altered)	Attach stopcock to cannula hub. Turn stopcock to off position. Unclamp catheter.
Aseptically attach thrombolytic filled syringe to the catheter hub. Slowly and gently inject the thrombolytic agent using a push-pull motion to achieve maximum mixing. To avoid catheter rupture do not force entire amount into catheter if strong resistance is felt	Connect empty syringe to one port of stopcock. Connect syringe filled with thrombolytic agent to second part of stopcock.
Leave 10-cc syringe attached to catheter. Do not attempt to aspirate for 30 - 60 minutes	Open stopcock port connected to empty syringe. Gently aspirate empty syringe to 8-9 cc, then close port, creating negative pressure
After 30 – 60 minutes attempt to aspirate 5 ml of blood to assure removal of all drug and clots	Open stopcock port connected to syringe filled with thrombolytic agent. Gently inject thrombolytic agent into catheter. Do not force.
Remove blood-filled syringe and replace it with a 10-cc syringe filled with normal saline. Flush catheter to verify patency	Close stopcock to catheter. Secure device to patient and label “Do not use” Allow agent to dwell in catheter for 30 – 60 minutes
Attach sterile, saline-filled injection cap or needleless device	Open stopcock to catheter aspirate 3-5 cc of blood and discard. Flush with 10 ml of 0.9% sterile sodium chloride. Attach sterile, saline-filled injection cap or needleless device
If unable to aspirate, repeat procedure, If unsuccessful notify physician	If unable to aspirate, repeat procedure, If unsuccessful notify physician

Note:

- ❑ For suspected lipid deposition occlusion when a thrombolytic does not clear the blockage, a sterile Ethanol 70% solution may be instilled and left in place for one hour. Follow above procedure for thrombolytic agent
- ❑ For suspected calcium and phosphate precipitation when a thrombolytic does not clear the blockage, a sterile 0.1% N Hydrochloric Acid solution may be instilled and left in place for one hour. The solution is then aspirated and the catheter flushed with normal saline. Follow above procedure for thrombolytic agent

This may help to clear the catheter of calcium phosphate or other drug precipitates.

Sodium bicarbonate may also be used for precipitates that are soluble in a basic solution