

PROCEDURE**TITLE: DECLOTTING CENTRAL VENOUS ACCESS DEVICES (CVADs) USING CATHFLO**

PURPOSE: To outline the procedure to restore patency of central venous access devices ; i.e., PICC, Hickman, non-tunneled (Triple lumen/ CVP) and implantable ports (Port-A- cath).

SUPPORTIVE DATA:

1. Catheter occlusion is the most common noninfectious complication in the long term use of central lines. Indications of catheter occlusion include:
 - a. Inability to infuse fluids
 - b. Lack of free flowing blood return
 - c. Increased resistance when flushing
 - d. Sluggish flow
 - e. If resistance is detected and irrigation is unsuccessful
2. Cathflo is indicated to restore patency of central venous catheters obstructed by clotted blood or fibrin, drug precipitates from incompatible drugs or lipid accumulations. Cathflo (Alteplase) acts on the endogenous fibrinolytic system. It converts plasminogen to the enzyme plasmin. Plasmin degrades fibrin clots as well as fibrinogen and other plasma proteins.
3. There is limited systemic exposure with Cathflo because it works by dwelling in the catheter in direct contact with the clot.
4. Circulating plasma levels of Cathflo are not expected to reach pharmacologic concentrations, because it has a short half-life.
5. Prior to using Cathflo, assess that other potential causes have been eliminated i.e., kinked tubing, closed clamps, dressing malplacement, precipitated drugs. Have patient change positions, move arms and rotate head.
6. Physician must be notified of catheter occlusion and must have order from physician to instilled Cathflo.
7. Cathflo solution should be prepared using aseptic technique.
8. Cathflo can be reconstituted and refrigerated for up to 8 hours before use.
9. If catheter infection is suspected Cathflo should not be used.

EQUIPMENT:

1. Obtained from pharmacy unit-dose vial Cathflo (Alteplase) 2mg/2mL and vial of Sterile Water.
2. (1) 10mL syringe containing Cathflo 2mg/2mL (after reconstituted)
3. Chloraprep/alcohol pad
4. (3) 10mL syringes
5. Injection caps
6. *For Power PICC Solo: 10mL Normal Saline flushes.
 *All Other PICC Lines, TLC: 10mL of Normal Saline followed by 5mL of Heparinized Saline
 (10units/mL)
 * For Port-a-caths : 10mL of Normal Saline followed by 5mL of Heparinized Saline (100units/mL)

CONTENT:**PROCEDURE FOR
DECLOTTING PICC:****KEY POINTS:**

1. Verify medical record for:
 - a. Order to restore patency with Cathflo for the central venous access device clotted.
2. Wash hands and assemble supplies.
3. Identify patient using Universal Protocol procedure.
4. Explain procedure to patient.
5. Refer to Cathflo (Alteplase) manufacturer's instructions for reconstitution. Use aseptic technique.

This will maintain the sterile dressing and keep catheter securely in place.

6. Remove current dressing only enough to expose catheter extension hub most if needed.
7. Wash hands and don sterile gloves.
8. Have the patient exhale and hold breath. If patient has a PICC line keep arm below the level of the heart. Prevents air embolism.
9. Aseptically remove injection cap or extension tubing. Swab the catheter hub with chloraprep or alcohol pad.
10. Using sterile technique attach an empty 10mL syringe. Verify occlusion by gently attempting to aspirate blood from the catheter until the plunger is pulled back to the 8mL mark. Aspiration of the catheter allows the evacuation of any substance that may be between the hub and clot formation. This allows a clear pathway for medication administration.
11. If aspiration is not possible, remove the syringe and attach a 10mL sterile syringe filled with the prepared Cathflo (2mg/2mL).
12. Slowly and gently instill 2mg of Alteplase into the catheter. AVOID excessive pressure when Cathflo is instilled into the catheter. Such force could cause rupture of the catheter or expulsion of the clot into the circulation.
13. After instillation, **secure syringe to patient's arm.** Label catheter "**DO NOT USE**" and leave indwelling for a minimum of 30 minutes.
14. After 30 minutes of dwell time, assess the catheter function by attempting to aspirate blood.
15. If BLOOD RETURN IS NOTED, aspirate 4 to 5ml of waste blood and flush line using a "pulse" or "stop/start" technique. This creates turbulence in the catheter and completely flushes the catheter lumen. Refer to CVAD Protocol for appropriate flushing solution. 4 to 5mL waste will assure complete removal of all Cathflo as well as small particles of the clot that may still remain.
16. Perform sterile dressing change.
17. If there is NO BLOOD RETURN allow **current dose to dwell an additional 90 minutes.** After waiting, attempt step (#14). AVOID excessive pressure when Cathflo is instilled into the catheter. Such force could cause rupture of the catheter or expulsion of the clot into the circulation.
18. If still unable to aspirate/ clear the catheter at 120 minutes, withdraw as much of the first dose as possible and a **second injection of 2mg of Cathflo may be instilled.**
19. Obtain 2nd dose of Cathflo from pharmacy.
20. Follow the same procedure as with the first instillation.
21. If catheter patency is unable to be restored after 2nd dose of Cathflo, withdraw as much of 2nd dose of Cathflo as possible.
22. It is recommended that the PICC be discontinued, TLC port clotted be marked and possible removal of line if more than one port is clotted. If port-a-cath remains clotted NOTIFY MD.

DOCUMENTATION:

1. Documents Cathflo on eMAR
2. Document procedure IV section of medical record
3. Document reportables to physician in a notification form.

REFERENCES:

Journal of Infusion Nursing, Standards of Practice. Jan/Feb 2011, Volume 34, Number S 76 and 77 (Lippincott, Williams and Wilkins) 2011.

WWW.Cathflo.Com 2011

Clinical Information Port-A-Cath and P.A.S Port Implantable Access Systems, Sims Delta Inc.: St Paul, Minnesota.