

**CAREPATH**rx™

Specialty Pharmacy & Infusion Solutions

Cathflo Activase (Alteplase)

2023

# Cathflo Activase

- Cathflo Activase (Alteplase) is a thrombolytic agent indicated for the restoration of function to central venous access devices.
- Binds to fibrin in the thrombus, converting entrapped plasminogen to plasma, and initiating local fibrinolysis
- Differs from heparin, an anti-coagulant that inhibits blood clotting
- Cathflo is indicated for central vascular access devices only
- Cathflo requires a physician's order



## FOUR TYPES OF THROMBOTIC OCCLUSIONS



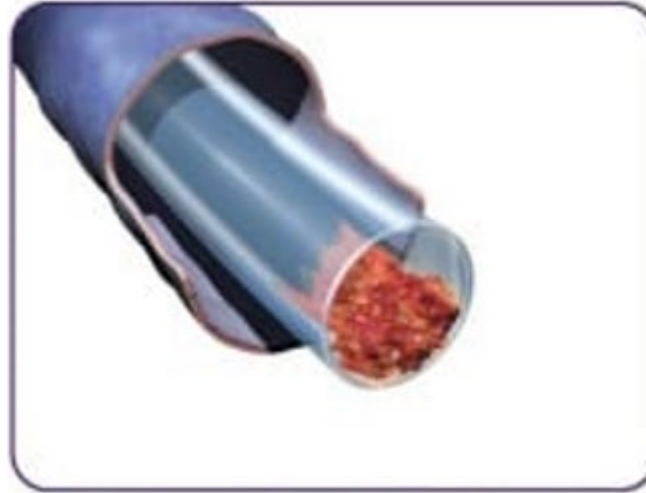
FIBRIN TAIL



FIBRIN SHEATH



MURAL THROMBUS



INTRALUMINAL THROMBUS

# Sluggish flow or inability to withdraw blood or flush catheter

Flow restored

Rule out mechanical causes of an occlusion  
(e.g., kinked or clamped catheter, patient  
position, migration of catheter, obstructed  
needleless end connector)

Obstruction  
remains

Suspect thrombolytic occlusion of catheter

Flow restored

Obtain physician's order for and administer  
Cathflo Activase

Obstruction  
remains

Flow restored

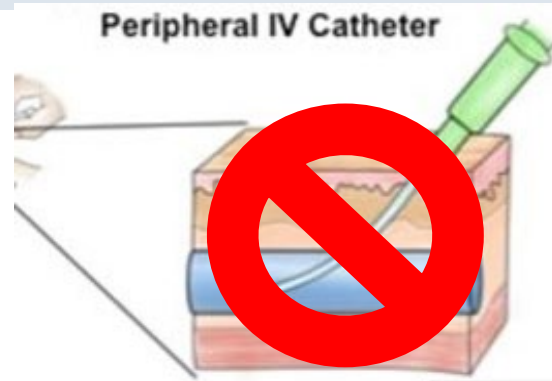
Administer 2<sup>nd</sup>  
dose of Cathflo

Obstruction  
remains

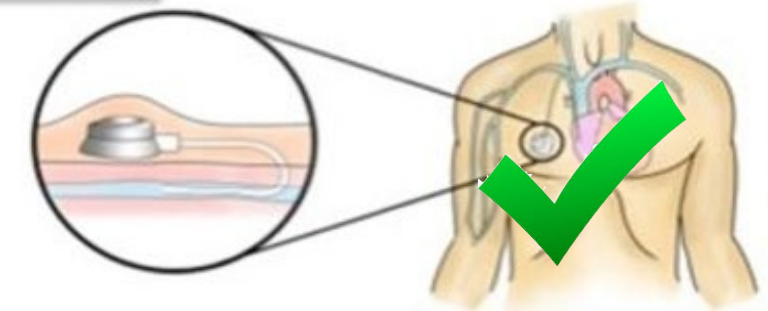
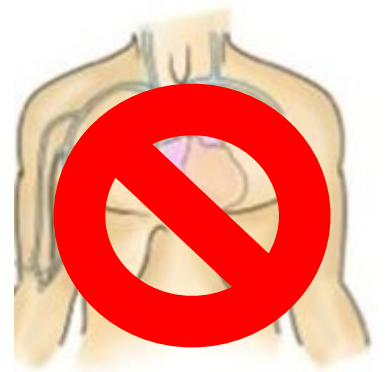
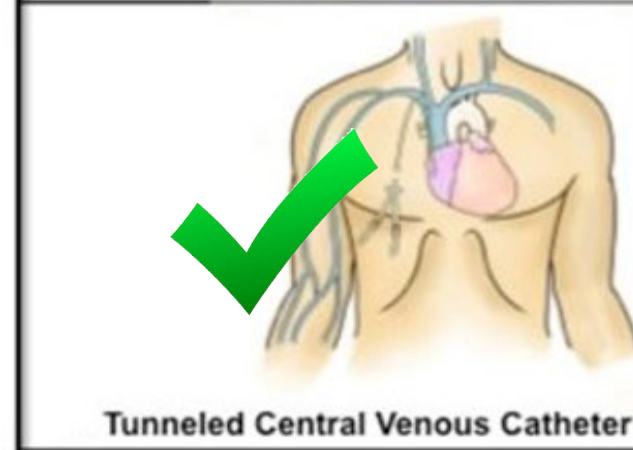
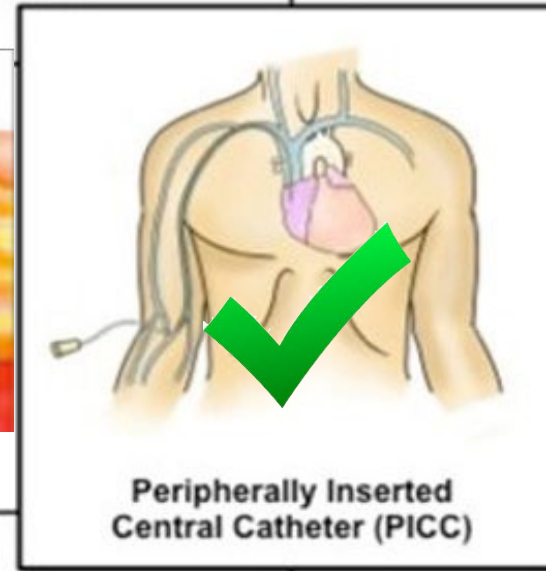
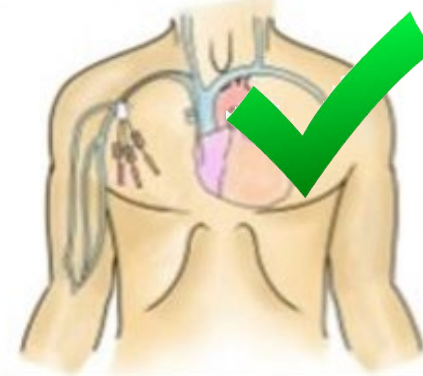
Notify provider for further orders. Notify Pharmacy Team

# Cathflo is appropriate for:

- PICC
- Non-tunneled central
- Tunneled central
- Implanted Ports



Non-Tunneled Central Venous Catheter



## Catheter Lumens



# Cathflo Activase

Connect to catheter

Syringe with Cathflo

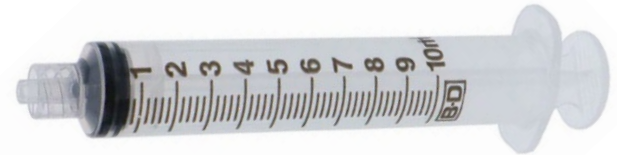
Empty syringe

Use of a stopcock is indicated for total occlusion, inability to instill or flush the catheter lumen.

An empty syringe is used to create negative pressure by pulling back on the plunger, then turning the stopcock to allow the Cathflo to enter the catheter lumen with the assistance of negative pressure.

## Supplies:

1. Cathflo Activase 2mg vial
2. Vial of preservative-free Sterile Water for injection, USP. **Do not use Bacteriostatic Water**
3. Stopcock (withdraw or complete occlusion)
4. 10 ml syringe (withdraw or complete occlusion)
5. 10 ml syringe with 20g 1” needle
6. Prefilled 0.9% sodium chloride syringe(s)
7. Antiseptic cleanser
8. Non-sterile gloves
9. Sharps container



# Cathflo Activase

Lyophilized Cathflo should be stored at refrigerated temperatures (2°C-8°C/36°F-46°F). Cathflo should be reconstituted immediately before use. The solution may be used within 8 hours if stored at 2°C to 30°C (36°F-86°F)

Cathflo Activase is reconstituted immediately prior to administration by injecting 2.2ml of sterile water into the vial. Cathflo Activase has a short half life and must be used within 2 hours of reconstitution

- Once reconstituted, pull up the ordered dose of the reconstituted Cathflo Activase into a 10ml syringe. The standard dose of Cathflo Activase is 2mg/2ml, but orders may vary based on the volume the CVAD can hold.
- Instill Cathflo Activase into the CVAD.
- Allow the Cathflo Activase to dwell in the catheter for 30 minutes.
- After 30 minutes, assess the CVAD for blood return.
- If there is no blood return, allow Cathflo Activase to dwell for an additional 90 minutes (120 minutes/2 hours total).
- Once a blood return has been restored, aspirate 3-5ml of blood to remove the Cathflo Activase and any residual clot, followed by a saline flush.
- The CVAD can now be used for medications and lab draws.

If there is no blood return after 2 hours, you may repeat with a second dose.

- If you are administering a second dose of Cathflo Activase, the first dose of Cathflo Activase in the line will be flushed systemically with the second dose. This is okay after two hours of dwell time due to the short half-life of the medication. After 120 minutes, Cathflo Activase efficacy is greatly reduced, resulting in minimal thrombolytic effect.

Instill Cathflo

Dwell for 30 minutes

Check for blood return

If needed, dwell for additional 90 min

Check blood return



# PREPARE CATHFLO FOR INSTILLATION ACCORDING TO MEDICATION LABEL OR PACKAGE INSERT. RECONSTITUTION OF SOLUTION:

1. Remove protective caps from medication vials
2. Scrub the rubber stopper of the vials with antiseptic swab for 30 seconds allow to dry completely for at least 60 seconds.
3. Aseptically attach needle to syringe. Pull back the plunger of the syringe until the amount of air equals the amount of Sterile Water for Injection, USP to be withdrawn. Insert syringe with needle attached into the vial of preservative-free Sterile Water for injection, USP.
4. Slowly inject air into the vial.
5. Invert vial and aseptically withdraw 2.2 mL of Sterile Water for Injection, USP. Do not use Bacteriostatic Water for Injection.
6. Remove syringe from the vial.
7. Hold the syringe with the plunger side down and tap the side of the syringe to move air to the top of the liquid. Carefully expel air.
8. Inject the 2.2 mL of Sterile Water for Injection, USP, into the Cathflo Activase vial. Slight foaming is not unusual; let the vial stand undisturbed to allow large bubbles to dissipate.
9. Mix by gently swirling until the contents are completely dissolved. DO NOT SHAKE. The reconstituted preparation results in a colorless to pale yellow transparent solution containing 1 mg/mL Cathflo Activase.
10. Cathflo Activase contains no antibacterial preservatives and should be reconstituted immediately before use.
11. Inspect the reconstituted vial for foreign matter and discoloration

# PROCEDURE FOR INSTILLATION FOR PARTIAL OCCLUSION:

1. Aseptically withdraw 2 mL (2 mg) of solution from the reconstituted vial.
2. Clamp catheter. Before attaching syringe to hub of catheter, scrub the hub vigorously for 30 seconds and allow to dry for 60 seconds. Remove needle from syringe and attach syringe to hub.
3. Open clamp. Instill Cathflo Activase into the occluded catheter and clamp catheter.
4. After 30 minutes of dwell time, unclamp catheter and assess catheter function by attempting to aspirate blood. If the catheter is functional, go to Step 7. If the catheter is not functional, clamp catheter and go to Step 5.
5. After 120 minutes of dwell time, assess catheter function by unclamping catheter and attempting to aspirate blood and catheter contents. If the catheter is functional, go to Step 7. If the catheter is not functional, clamp catheter and go to Step 6.
6. If catheter function is not restored after one dose of Cathflo Activase, a second dose of equal amount may be instilled. Repeat the procedure beginning with Step 1 under Reconstitution of Solution.
7. If catheter function has been restored, aspirate 4–5 mL of blood to remove Cathflo Activase and residual clot and flush the catheter with 0.9% Sodium Chloride Injection using a pulsatile technique. Clamp catheter.
8. If catheter patency is not restored after 2 doses, notify physician of occluded catheter.

## Procedure for instillation for withdraw or complete occlusion: (Stopcock method using negative pressure and (1) 10 ml syringe)

1. Aseptically withdraw 2 mL (2 mg) of solution from the reconstituted vial.
2. Clamp catheter. Scrub the hub vigorously for 30 seconds and allow to dry for 60 seconds. Aseptically remove needleless end cap from catheter hub.
3. Attach the 3-way stopcock to the catheter hub with the stopcock in the off position to the patient.
4. Attach an empty 10 ml syringe to one of the ports on the stopcock.
5. Attach the syringe containing Cathflo Activase to the other port on the stopcock and turn stopcock off to the syringe containing Cathflo Activase.
6. Unclamp the catheter.
7. Aspirate catheter using empty syringe until the plunger is pulled back to the 8 ml mark on the syringe and while maintaining negative pressure, turn the stopcock off to the empty syringe. This will allow Cathflo Activase to be drawn into the central line.
8. Repeat the negative pressure technique with the Cathflo Activase syringe. Pull back on the plunger in the Cathflo Activase syringe until entire dose is drawn into the catheter by negative pressure. This may require several aspiration attempts.
9. Reclamp the catheter.
10. Remove stopcock and attach an empty 10 ml syringe.
11. After 30 minutes of dwell time, unclamp the catheter and assess catheter function by attempting to aspirate blood. If the catheter is functional, go to Step 13. If the catheter is not functional, clamp catheter and go to Step 12.
12. After 120 minutes of dwell time, assess catheter function by unclamping catheter and attempting to aspirate blood and catheter contents. If the catheter is functional, go to Step 13. If the catheter is not functional, clamp catheter and go to Step 14.
13. If catheter function has been restored, aspirate 4–5 mL of blood in patients  $\geq 10$  kg or 3 mL in patients  $< 10$  kg to remove Cathflo Activase and residual clot and flush the catheter with 0.9% Sodium Chloride Injection using a pulsatile technique. Clamp catheter.
14. If catheter function is not restored after one dose of Cathflo Activase, a second dose of equal amount may be instilled. Repeat the procedure beginning with Step 1 under Reconstitution of Solution.
15. If catheter patency is not restored after 2 doses, notify physician of occluded catheter.

cathflo.com

Home > Dosing & Administration > Cathflo Administration

## Cathflo<sup>®</sup> Activase<sup>®</sup> (alteplase) Administration

Allow appropriate Cathflo dwell time before assessing catheter function

Review these general guidelines for administering Cathflo<sup>®</sup>

Cathflo Administration

After **WASHING** hands and applying gloves<sup>8</sup>:



1. After reconstitution using 2.2 mL sterile water for injection and aseptic technique **INSPECT** solution for foreign matter and discoloration.



The INS Infusion Therapy Standards of Practice state that the instillation of alteplase 2 mg (Cathflo Activase) is safe and effective in restoring catheter patency in patients.<sup>2</sup>

Download the portable dosing and administration guide [here >](#)

Link to website:

[Single-Use Vial Lytic Thrombolytic - Cathflo<sup>®</sup> Activase<sup>®</sup> \(alteplase\)](#)

Dosing & Administration tab

- Reconstitution instructions
- Dwell/administration instructions
- Video instructions
- Link to downloadable documents

## Cathflo® Activase® (alteplase) Dosing and Administration

Cathflo 2 mg is the standard of care for treatment of thrombotically occluded catheters.

### Administration<sup>1</sup>

After **WASHING** hands and applying gloves:

**1** After performing hand hygiene and donning gloves, aseptically reconstitute using 2.2 mL Sterile Water for Injection and **INSPECT** solution for foreign matter and discoloration.

**2** **INSTILL** the appropriate dose of Cathflo into the occluded catheter using a 10-mL syringe (see dosing chart below).

**3** After 30 minutes of **DWELL** time, assess the catheter function by attempting to aspirate blood. If the catheter is functional, go to step 5; if not functional, go to step 4.

**4** **ASSESS** catheter function after a total of 120 minutes of dwell time by attempting to aspirate blood. If the catheter is functional, go to step 5. If the catheter is still occluded, a second dose of equal amount may be instilled. Repeat steps 1 through 3.

**5** If catheter function has been restored, **ASPIRATE** 4 mL to 5 mL of blood in patients  $\geq 10$  kg or 3 mL in patients  $< 10$  kg to remove Cathflo and residual clot. Then discard aspirate, and flush catheter with 0.9% Sodium Chloride, USP. **Any unused solution should be discarded.**



Single-use vial

**Note:** Store lyophilized Cathflo at refrigerated temperature (2°C–8°C/36°F–45°F). Cathflo should be reconstituted immediately before use. The solution may be used within 8 hours if stored at 2°C to 30°C (36°F–86°F). **No other medication should be added to solutions containing Cathflo.**

### FDA-approved dosing with Cathflo Activase (alteplase) 2 mg<sup>1</sup>

Patient weight	Cathflo dose
$\geq 30$ kg (66 lb)	2 mg in 2 mL
$< 30$ kg (66 lb)	110% of the internal lumen volume of CVAD, not to exceed 2 mg in 2 mL

CVAD=central venous access device.

#### Indication

Cathflo® Activase® (alteplase) is indicated for the restoration of function to central venous access devices as assessed by the ability to withdraw blood.

#### Important Safety Information

##### Contraindications

Cathflo Activase should not be administered to patients with known hypersensitivity to alteplase or any component of the formulation.

**Please see additional Important Safety Information on next page.**

**Genentech**  
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## Cathflo® Activase® (alteplase) Dosing and Administration

Cathflo 2 mg is the standard of care for treatment of thrombotically occluded catheters.

### Highest Level of Evidence in CVAD Guidelines

Cathflo is the only thrombolytic recommended by clinical practice standards, including the Infusion Nurses Society (INS), Association for Vascular Access (AVA), American Association of Critical Care Nurses (AACN), and Oncology Nursing Society (ONS).<sup>2-7</sup>



Use 2 mg alteplase (Cathflo Activase) to restore patency and maintain catheter function.<sup>3</sup>

— Class 1; Level of Evidence A, ONS Access Device Standards of Practice, 2012, page 10, section VI, practice standard B



Instill alteplase 2 mg (Cathflo Activase) in the catheter lumen in accordance with manufacturer's directions for use and repeat 1 time if first attempt is unsuccessful.<sup>2</sup>

— Practice Recommendation; Level of Evidence II, INS Infusion Therapy Standards of Practice, 2021, page S151, recommendation F-2b

### Important Safety Information (cont'd)

#### Precautions

##### General

Certain causes of catheter dysfunction should be considered before treatment with Cathflo Activase (e.g., catheter malposition, mechanical failure, constriction by a suture and lipid deposits or drug precipitates within the catheter lumen). These types of conditions should be considered before treatment with Cathflo Activase.

##### Bleeding

The most frequent adverse reaction associated with all thrombolytics in all approved indications is bleeding.

Should serious bleeding in a critical location (e.g., intracranial, gastrointestinal, retroperitoneal, pericardial) occur, treatment with Cathflo Activase should be stopped and the drug should be withdrawn from the catheter.

##### Infections

Cathflo Activase should be used with caution in the presence of known or suspected infection in the catheter.

##### Hypersensitivity

Hypersensitivity, including urticaria, angioedema and anaphylaxis, has been reported in association with use of Cathflo Activase. Monitor patients treated with Cathflo Activase for signs of hypersensitivity and treat appropriately if necessary.

##### Adverse Reactions

In clinical trials, the most serious adverse events reported after treatment were sepsis, gastrointestinal bleeding, and venous thrombosis.

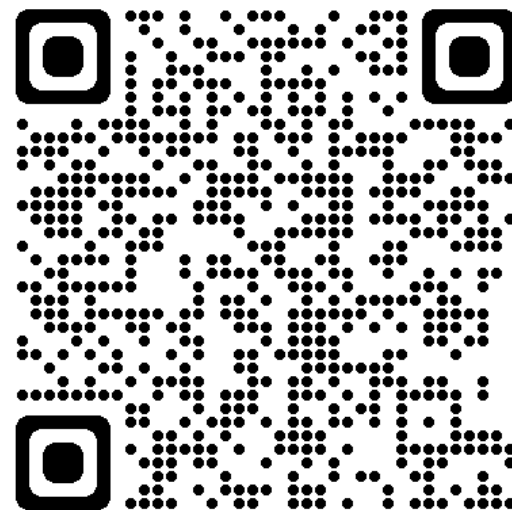
**Please see Indication and Important Safety Information on first page. Please see full Prescribing Information below for additional Important Safety Information.**

**References:** 1. Cathflo [prescribing information]. Genentech USA, Inc. 2. Infusion Nurses Society. Infusion therapy standards of practice. *J Inten Nurs*. 2021;44 (suppl 1):S1-S224. 3. Camp-Somell D, ed. Access Device Standards of Practice for Oncology Nursing, 4th ed. Oncology Nursing Society; 2017. 4. McVnight S. Nurse's guide to understanding and treating thrombotic occlusion of central venous access devices. *Medsurg Nurs*. 2004;13(6):377-382. 5. Haire WD, Herbst SF. Consensus conference on the use of alteplase (t-PA) for the management of thrombotic catheter dysfunction. *J Vasc Access Devices*. 2000;1-8. 6. Oriddle LM. Ask the experts. *Crit Care Nurse*. 2007;27(3):78-81. 7. Cummings-Winfield C, Mushani-Karji T. Restoring patency to central venous access devices. *Clin J Oncol Nurs*. 2008;12(6):925-934.

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Downloadable Instructions:  
Cathflo.com



Thank you for participating!

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