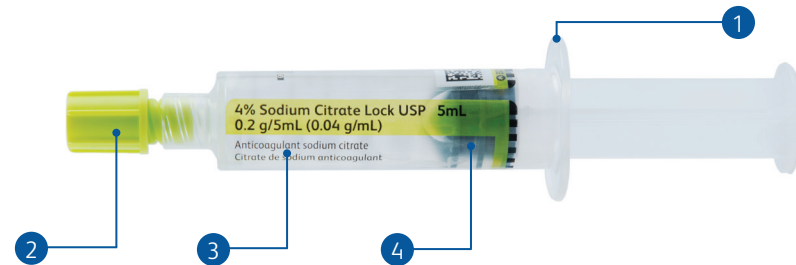


BD PosiFlush Pre-Filled Syringes

Designed to help improve clinician efficiency and patient outcomes

- Available in a ready-to-use, prefilled syringe
- Designed to prevent solution from entering a non-sterile area of the syringe
- Range of sizes available to meet priming volume recommendations



1 Unique stubby design

Effectively minimizes the likelihood of syringe-induced reflux.

2 BD Luer-Lok™ tip cap

Tighter seal for closure integrity helping prevent touch contamination and infection.

3 Clear labelling

Meets the Joint Commission's recommendation for medication labelling, reducing the risk of medication errors.

4 Consistent 10 mL syringe diameter

May help lower the risk of catheter damage due to injection pressure.

References: 1. Yon CK, Low CL. Sodium citrate 4% versus heparin as a lock solution in hemodialysis patients with central venous catheters. *Am J Health Sys Pharm.* 2013;70(2):131-136. 2. MacRae JM, Dojcinovic I, Djurdjev O, et al. Citrate 4% versus heparin and the reduction of thrombosis study (CHARTS). *Clin J Am Soc Nephrol.* 2008;3(2):369-374. 3. Moran JE, Ash SR, ASDIN Clinical Practice Committee. Locking solutions for hemodialysis catheters; heparin and citrate—a position paper by ASDIN. *Semin Dial.* 2008;21(5):490-492. 4. Tordoir J, Canaud B, Haage P, et al. EBPG on Vascular Access. *Nephrol Dial Transplant.* 2007;22(Suppl. 2):ii88-ii117. 5. Hill J, Broadhurst D, Miller K, et al. Occlusion management guideline for central venous access devices (CVADs). *Vascular Access.* 2013;7(1):1-34. 6. Gorski LA, Hadaway L, Hagle ME, McGoldrick M, Orr M, Doellman D. Infusion therapy standards of practice. *J Infus Nurs.* 2016;39(Suppl 1):S1-S159. 7. Canadian Association of Nephrology Nurses and Technologists. Nursing recommendations for the management of vascular access in adult hemodialysis patients: 2015 update. *CANN T.* 2015;25(Suppl 1):1-48. 8. Grudzinski L, Quinan P, Kwok S, Pierratos A. Sodium citrate 4% locking solution for central venous dialysis catheters—an effective, more cost-efficient alternative to heparin. *Nephrol Dial Transplant.* 2007;22(2):471-476. 9. Grudzinski A, Agarwal A, Bhatnagar N, Nesrallah G. Benefits and harms of citrate locking solutions for hemodialysis catheters: a systematic review and meta-analysis. *Can J Kidney Health Dis.* 2015;13(2):1-12. 10. Lok CE, Appleton D, Bhola C, Khoo B, Richardson RMA. Trisodium citrate 4%—An alternative to heparin capping of haemodialysis catheters. *Nephrol Dial Transplant.* 2007;22(2):477-483. 11. Jones SM, Ravani P, Hemmelgarn BR, Muruve D, MacRae JM. Morphometric and biological characterization of biofilm in tunneled hemodialysis catheters. *Am J Kidney Dis.* 2011;57(3):449-455. 12. Shanks RMQ, Sargent JL, Martinez RM, Graber ML, O'Toole GA. Catheter lock solutions influence staphylococcal biofilm formation on abiotic surfaces. *Nephrol Dial Transplant.* 2006;21(8):2247-2255.



Because so much
is on the line

BD PosiFlush™ 4% Sodium Citrate
Pre-Filled Lock Syringes

Maximize catheter patency. Minimize risk of adverse events.

Visit bd.com to learn more.

For more information or to order, please contact your local BD Sales Representative.

BD PosiFlush pre-filled syringes offer a range of safe, effective patency solutions, including 0.9% sodium chloride (USP), heparin and 4% sodium citrate

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BD PosiFlush 4% Sodium Citrate Pre-Filled Lock Syringes

Maximize catheter patency.
Minimize risk of adverse events.



In clinical studies vs heparin 5,000 U/mL,
4% sodium citrate lock solution demonstrated:*

59% ↓
reduction in catheters
exchanged (1.33 vs 3.24/1,000
catheter-days, $p = 0.002$)¹

57% ↓
reduction in catheter-related
bloodstream infections (CRBSIs)
(0.81 vs 1.90/1,000 catheter-days,
 $p = 0.026$)¹

67% ↓
reduction in systemic bleeding
events (7 vs 21, $p = 0.035$)²

100%
free of risk of heparin-induced
thrombocytopenia (HIT)²

International guidelines support the use of 4% sodium citrate lock solutions to help maintain catheter patency³⁻⁷

* Current data only validated in hemodialysis catheters.

Maintain catheter patency without the risks associated with heparin

Locking with 4% sodium citrate solution provides significant benefits vs locking with heparin 5,000–10,000 U/mL*

	4% sodium citrate	Heparin 5,000–10,000 U/mL
Equivalent anticoagulation and maintenance of catheter patency ^{1,2,8-10}	✓ Similar antithrombotic efficacy and maintenance of catheter function	✓
Equivalent patency without heparin-related adverse events ^{2,8,9}	✓ Not associated with systemic anticoagulation, bleeding risks or HIT	✗
Improves CVC dwell time ^{2,8-10}	✓ Time from catheter insertion to CVC exchange was significantly improved (174 vs 84 days; $p = 0.04$)	✗
Associated with significantly fewer CRBSIs ^{1,2,8,10}	✓ Significantly fewer CRBSIs with 4% sodium citrate vs 5,000 U/mL heparin (0.81 vs 1.90/1,000 catheter-days, $p = 0.026$)	✗
May help prevent biofilm formation ^{11,12}	✓ Efficiently inhibits biofilm formation and cell growth of <i>S. aureus</i> and <i>S. epidermidis</i>	✗
May be more cost-effective than heparin locks in vials ^{8,10}	✓ Up to 85% reduction in costs associated with catheter-locking therapy	✗

* Current data only validated in hemodialysis catheters.

Part of BD vascular access management

An integrated approach to vascular access care

1 Clinical assessments

Chart an actionable strategy for reducing variations

2 Comprehensive portfolio of products

Reduce the risk of infections and occlusions at every point on the line



3 Training and education

Help make your nurses proficient and compliant

BD PosiFlush 4% sodium citrate pre-filled lock syringes

Together, we can advance vascular access care.

BD has the expertise to assess your clinical practice and develop customized solutions to reduce complications and achieve a higher standard of care.