

Antibiotic Lock Therapy

BACKGROUND:

Antibiotic lock therapy has been used for the management of some catheter-related infections.¹ These should be considered in patients with a central line-associated bloodstream infection (CLABSI) or other catheter-related bloodstream infection (CRBSI) in whom the catheter is to be maintained. The best option is typically to remove the catheter and place a new one, but there are populations with limited vascular access sites.

If you are using antibiotic lock therapy to treat a CLABSI or CRBSI, make sure that systemic antibiotics are also infused through the catheter.

Antibiotic lock therapy is best studied in coagulase-negative Staphylococci infection. *Staphylococcus aureus* and Candida or yeast infections should be treated with catheter removal and NOT with antibiotic lock therapy.¹

Exclusion criteria:

- Exit site or tunnel infection
- *Staphylococcus aureus* infections
- Candida or other yeast infection
- Cannot withdraw lock solution from catheter
- History of heparin-induced thrombocytopenia or other contraindications to heparin
- Allergy to antibiotic

Procedure:

Do not inject the antibiotic lock solution systemically. Always withdraw the antibiotic lock solution first. Do not use the catheter for other infusions without withdrawing the antibiotic lock solution first.

Provide antibiotic lock therapy with systemic antibiotics delivered through the catheter for the prescribed duration. Dwell times range from 4-24 hours.

The volume of the antibiotic lock solution is 3ml in each lumen of the catheter.

Perform the following steps in each lumen of the catheter.:²

1. Withdraw the old antibiotic lock solution and discard.
2. Use the SAS protocol. Flush the catheter with normal saline.
3. Infuse the ordered medication through the catheter if you are using the catheter for an ordered medication.
4. Flush the catheter with 10ml normal saline.
5. Instill 3ml of the antibiotic lock solution into the catheter.
6. Do not flush. The antibiotic lock solution will stay in the catheter until you withdraw it prior to the next use.
7. Repeat these steps for the other side of the IV line.
8. Repeat these steps every 24 hours or each time you use the IV line.

Recommended concentrations:²

Antibiotic	
Vancomycin 5mg/mL	
Cefazolin 5mg/mL	
Gentamicin 2mg/mL	
Vancomycin 2.5mg/mL with gentamicin 1mg/mL	



Reference

1. Mermel LA, Allon M, Bouza E, et al. Clinical Practice Guidelines for the Diagnosis and Management of Intravascular Catheter-Related Infection: 2009 Update by the Infectious Diseases Society of America. *Clinical Infectious Diseases*. 2009;49(1):1-45. doi:10.1086/599376
2. Justo JA, Bookstaver PB. Antibiotic lock therapy: Review of technique and logistical challenges. *Infect Drug Resist*. 2014;7:343-363. doi:10.2147/IDR.S51388

